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PART A  
IONOSPHERIC DATA

ISSUED

OCTOBER 1965

NOTICE

See announcement on page ii

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ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION  
INSTITUTE FOR TELECOMMUNICATION SCIENCES AND AERONOMY  
(FORMERLY CENTRAL RADIO PROPAGATION LABORATORY)  
BOULDER, COLORADO



ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION  
INSTITUTE FOR TELECOMMUNICATION SCIENCES AND AERONOMY  
( FORMERLY CENTRAL RADIO PROPAGATION LABORATORY )  
BOULDER, COLORADO

# IONOSPHERIC DATA

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## NOTICE

Effective October 11, 1965, the Central Radio Propagation Laboratory was transferred from the National Bureau of Standards to the new Environmental Science Services Administration (ESSA). At the same time the name CRPL was changed to INSTITUTE FOR TELECOMMUNICATION SCIENCES AND AERONOMY (ITSA) to reflect the expanded scope of its responsibilities. The monthly bulletins "Ionospheric Data" (CRPL-F series, Part A) and "Solar-Geophysical Data" (CRPL-F series, Part B) will be continued under the new ITSA program. Communications concerning the "Ionospheric Data" series should be addressed to:

Prediction Services Section  
Ionospheric Telecommunication Laboratory  
Institute for Telecommunication Sciences and Aeronomy  
Environmental Science Services Administration  
Boulder, Colorado 80301

## IONOSPHERIC DATA

The CRPL-F series bulletins are issued as part of the responsibility of the Institute for Telecommunication Sciences and Aeronomy (formerly Central Radio Propagation Laboratory) of ESSA for the distribution of ionospheric and related geophysical data. They represent a variety of data collected by ITSA (CRPL) in the course of its research and service activities. Through the CRPL-F series, as part of the general exchange of scientific information, these data are made available for use by others in research on radio propagation and the ionosphere, and in other geophysical applications.

In "Ionospheric Data" (CRPL-F series, Part A) tables of monthly median values of vertical incidence ionospheric data are presented accompanied by graphs of critical frequencies and  $M(3000)F_2$ . The tables include the number of values entering into the median determination (count). When available, the upper and lower quartile values (indicated by UQ and LQ) are listed for  $foF_2$ ,  $foF_1$ ,  $foEs$ ,  $M(3000)F_2$ ,  $h'F_2$  and  $h'F$ . Space limitations do not permit inclusion of quartile values for the other characteristics. The tables are prepared by machine methods and the graphs are plotted automatically.

The tables and graphs present the ionospheric data as received from the originating laboratory. Responsibility for the accuracy and reliability of the data rests entirely with the originator. Medians of data for the U.S. stations are computed in accordance with the recommendations of the World-Wide Soundings Committee.

Data will appear in the "Ionospheric Data" only when the complete daily hourly tabulations have been received. In general, priority of publication is given to the most current data. Publication of data



THE IONOSPHERIC DATA PRESENTED IN THE 100 TABLES AND GRAPHS OF THIS ISSUE WERE ASSEMBLED BY THE INSTITUTE FOR TELECOMMUNICATION SCIENCES AND AERONOMY FOR ANALYSIS, CORRELATION, AND DISTRIBUTION. THE FOLLOWING ARE THE SOURCES OF DATA.

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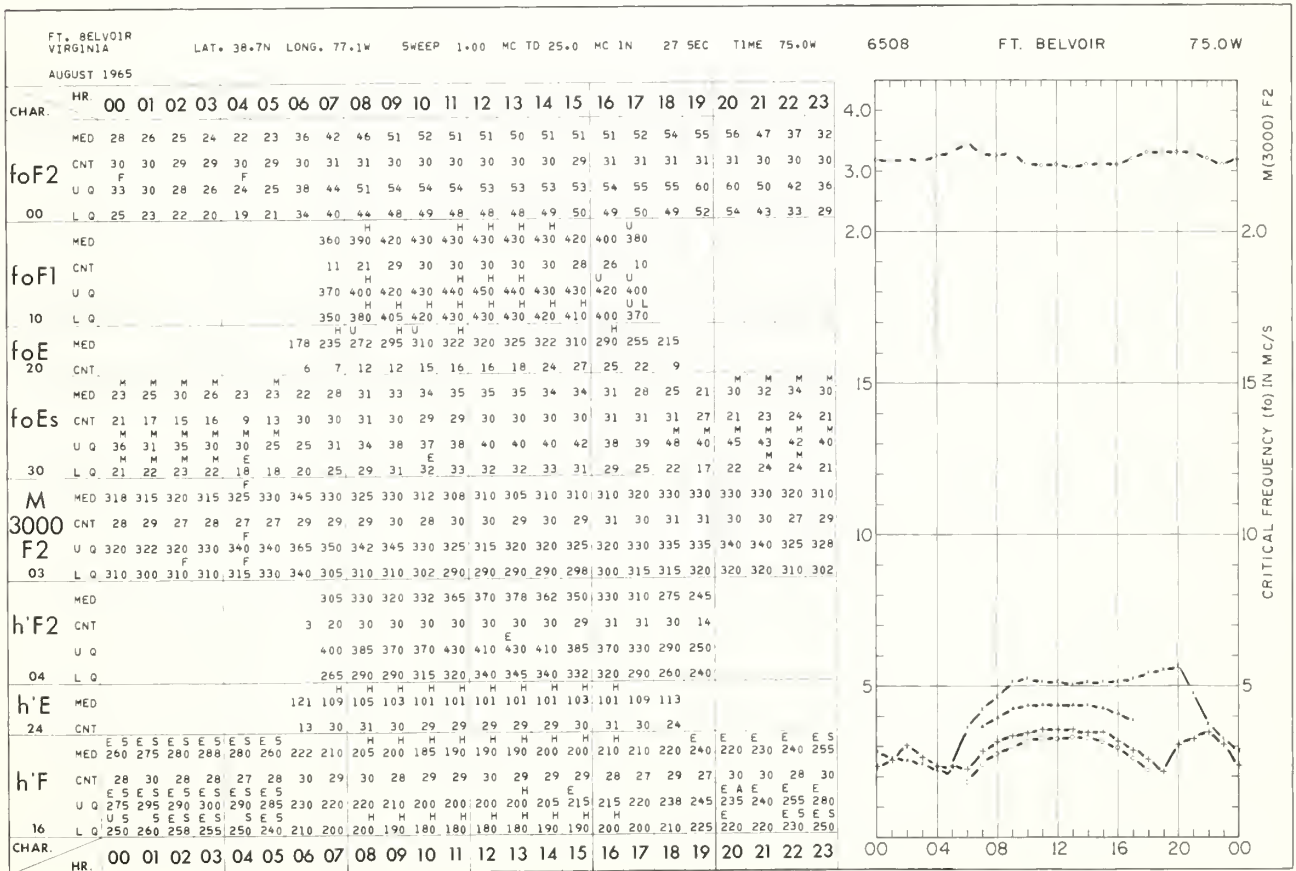
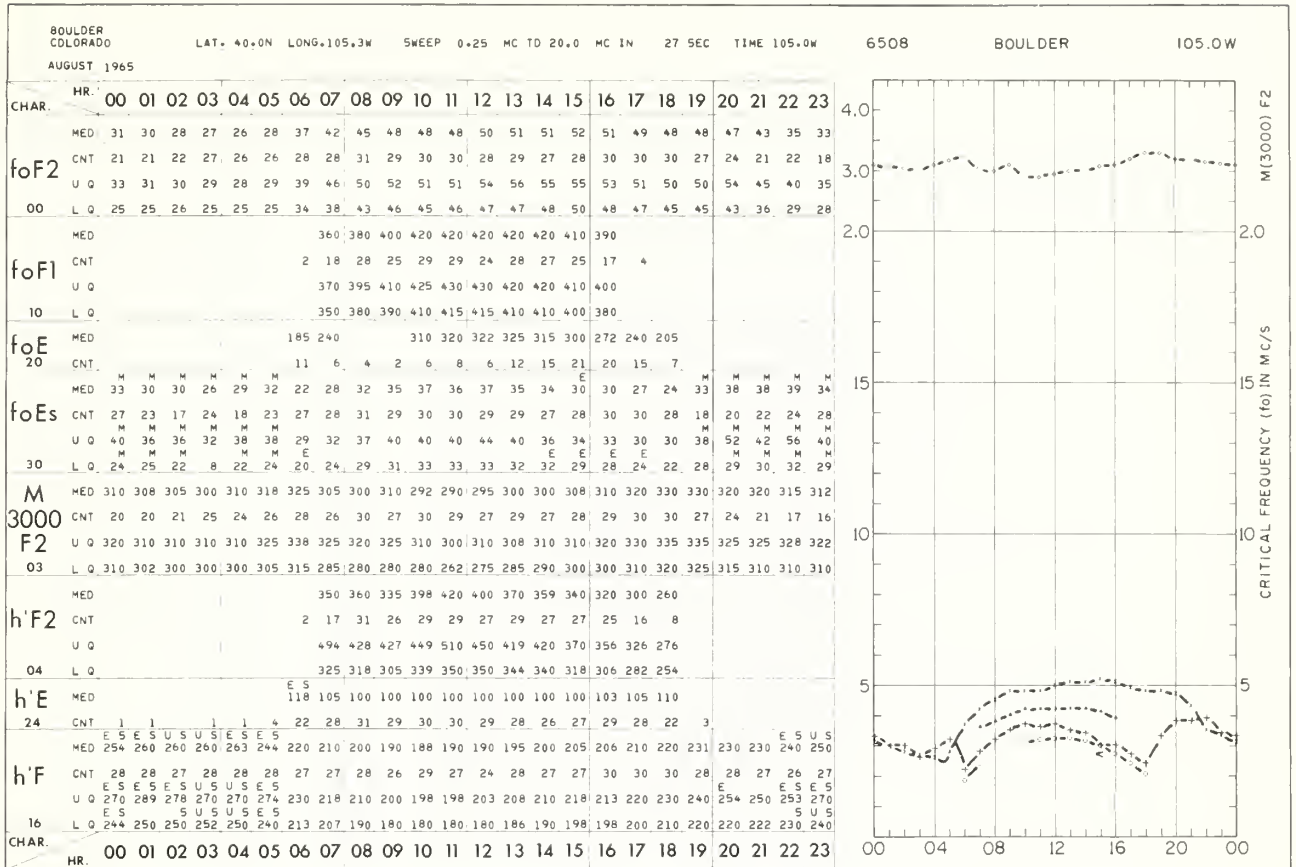
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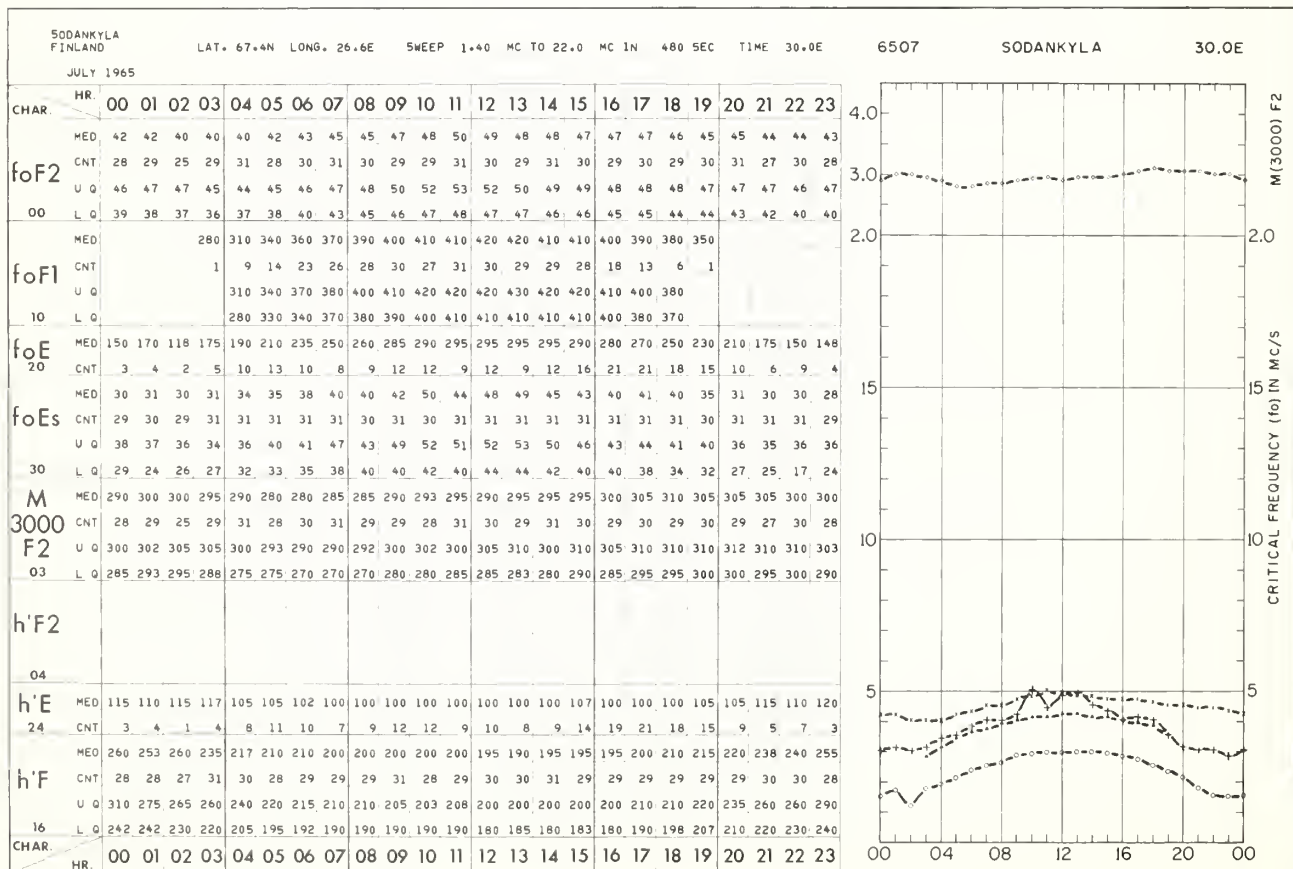
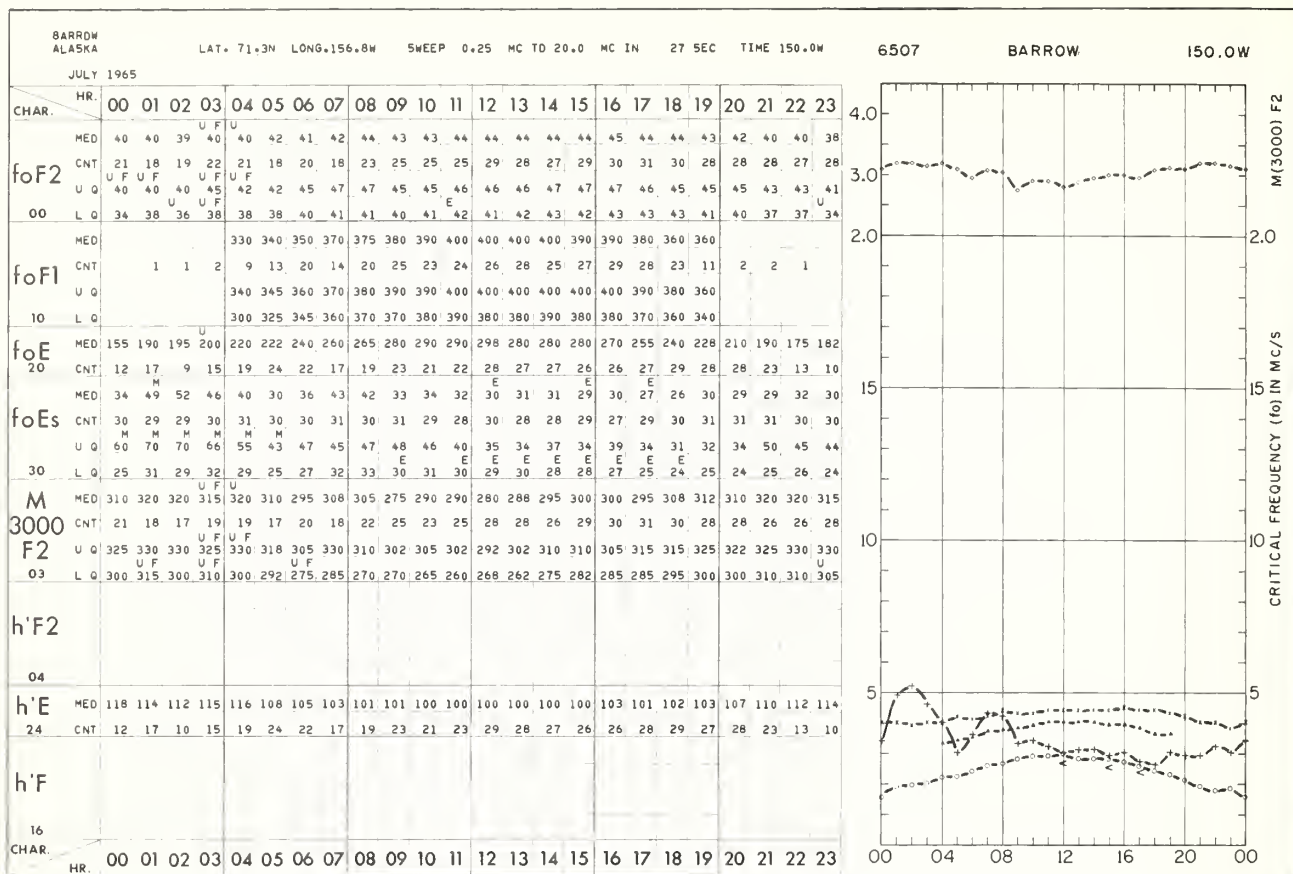


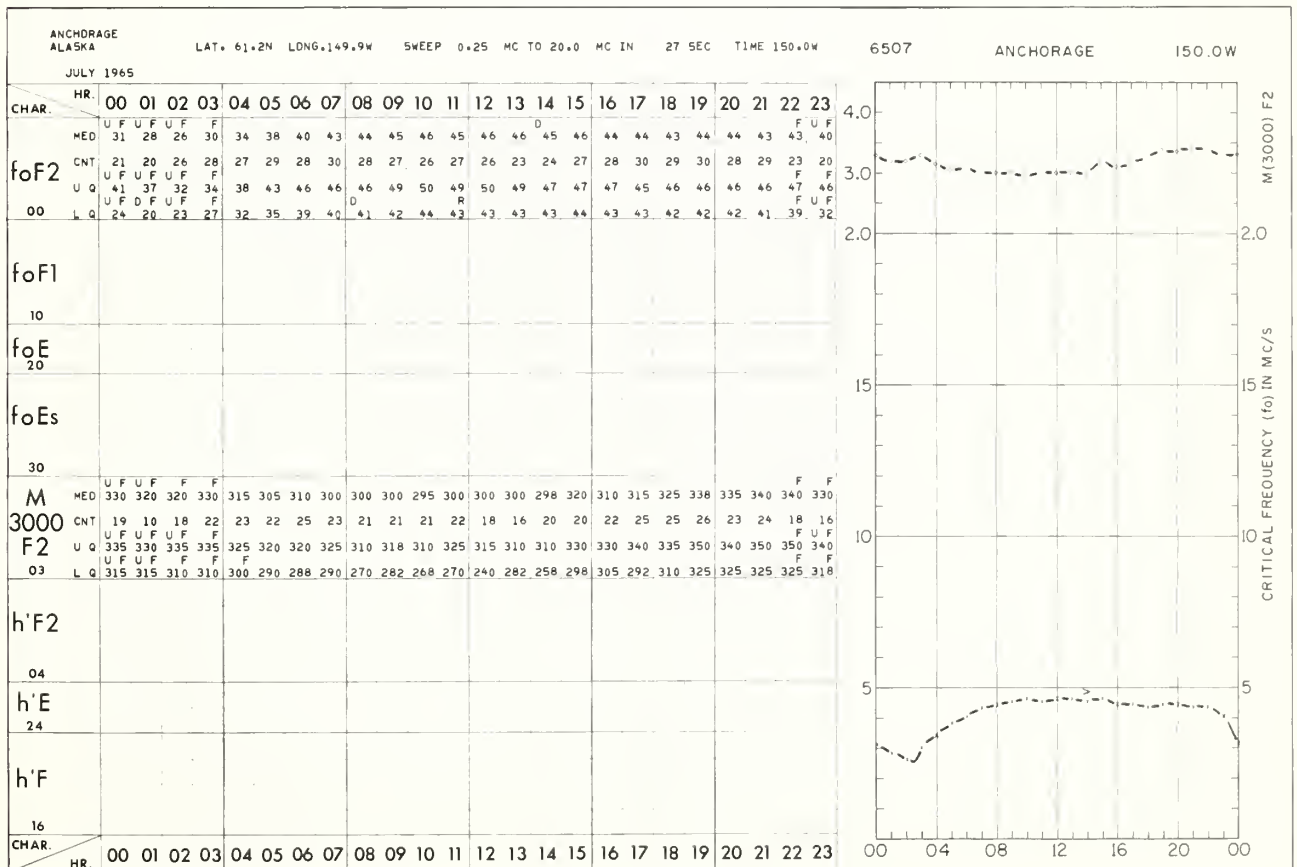
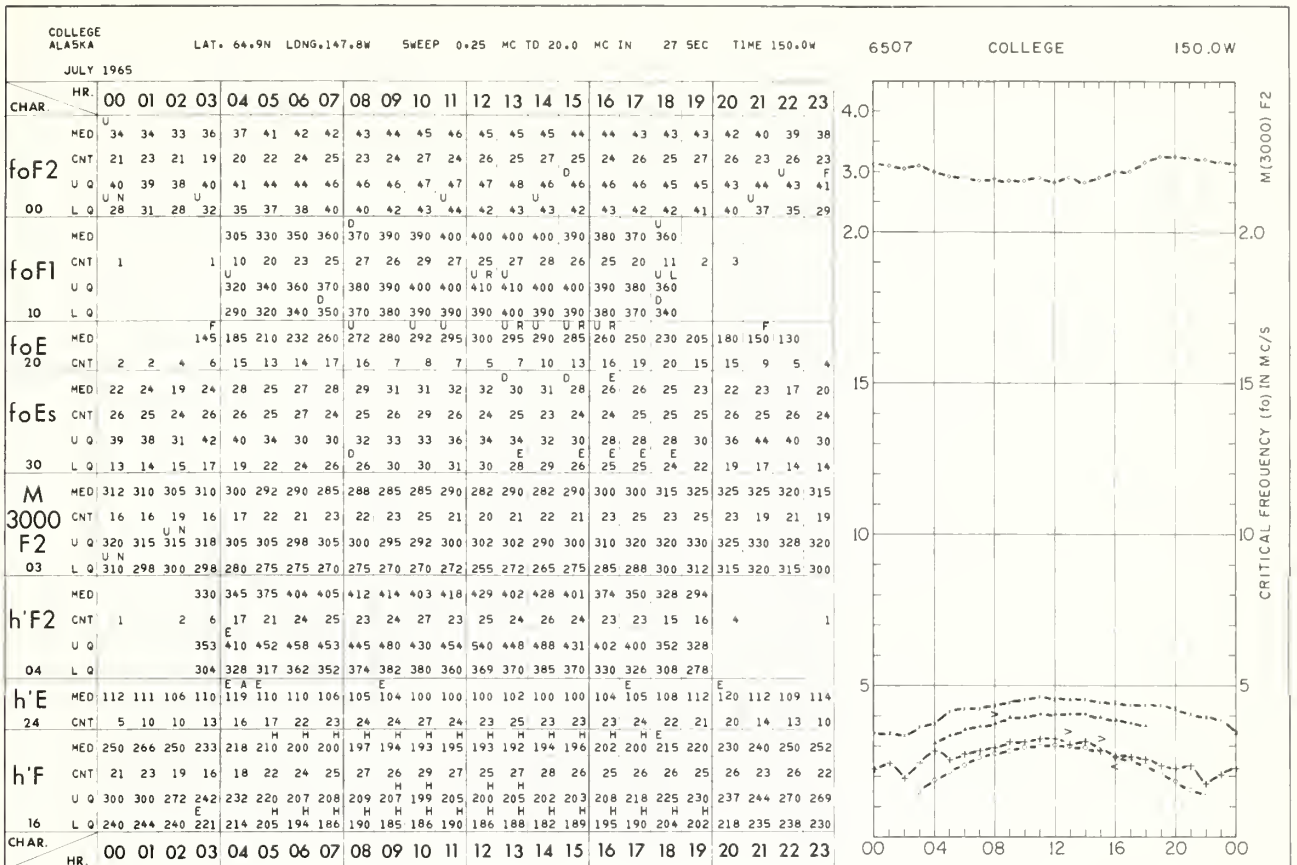
# TABLES AND GRAPHS OF IONOSPHERIC DATA

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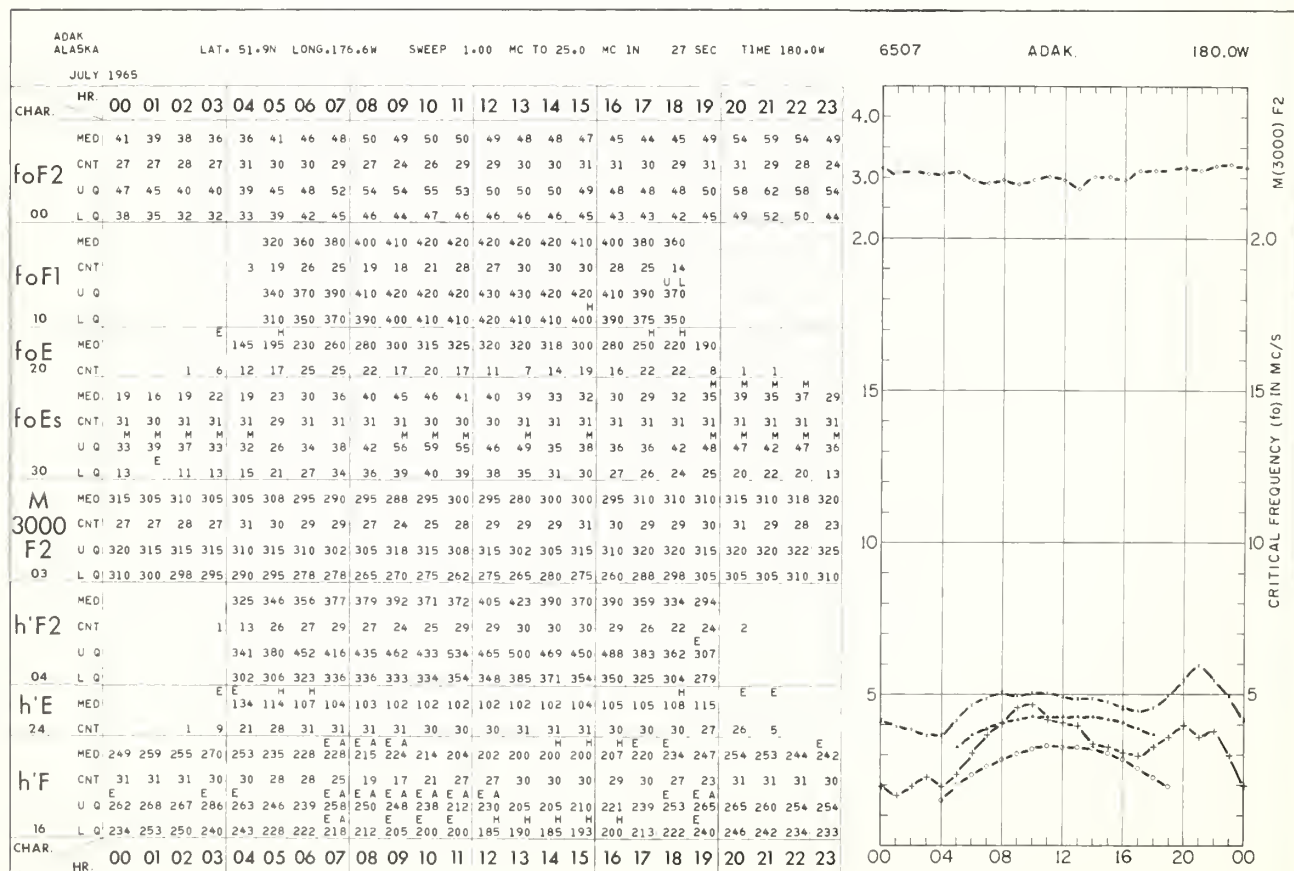
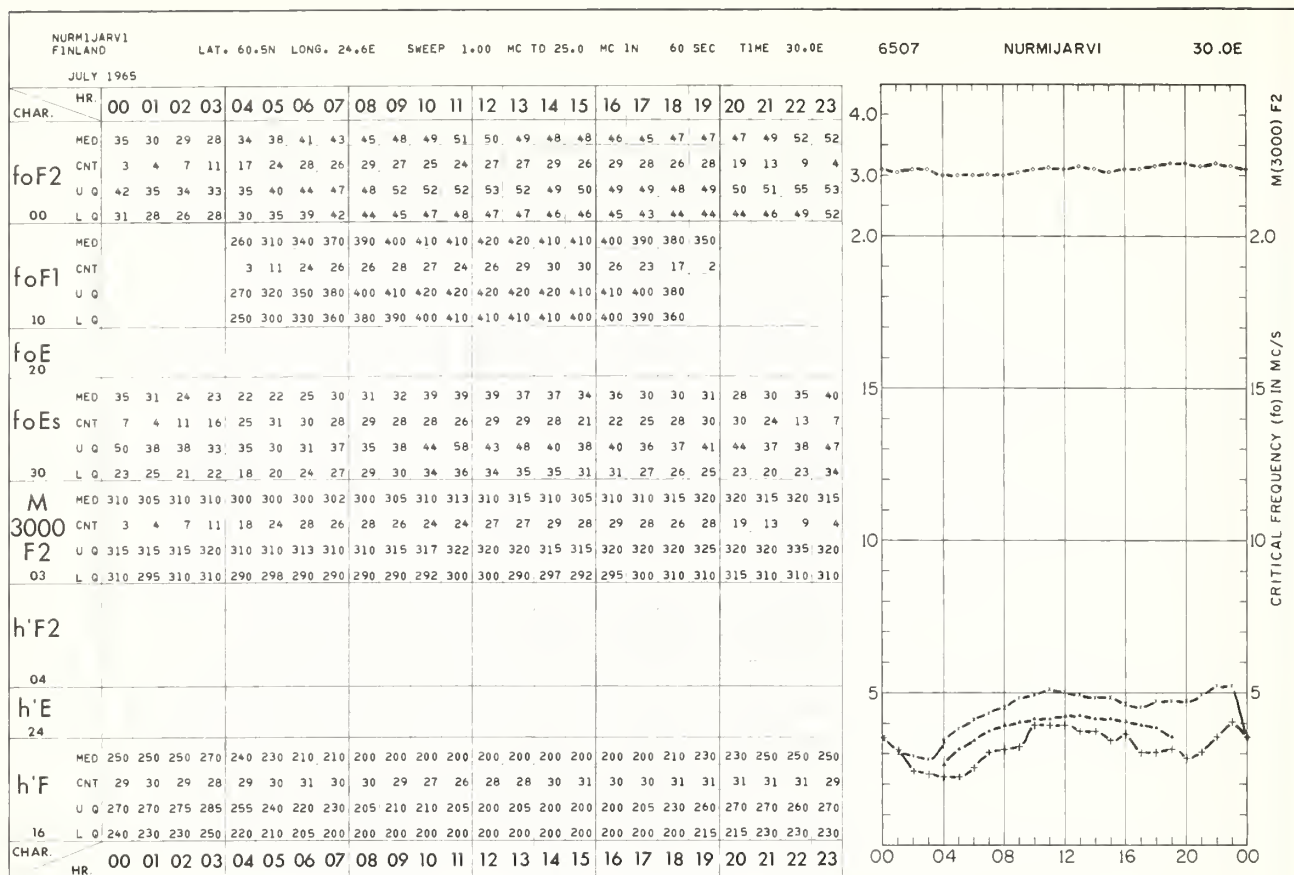
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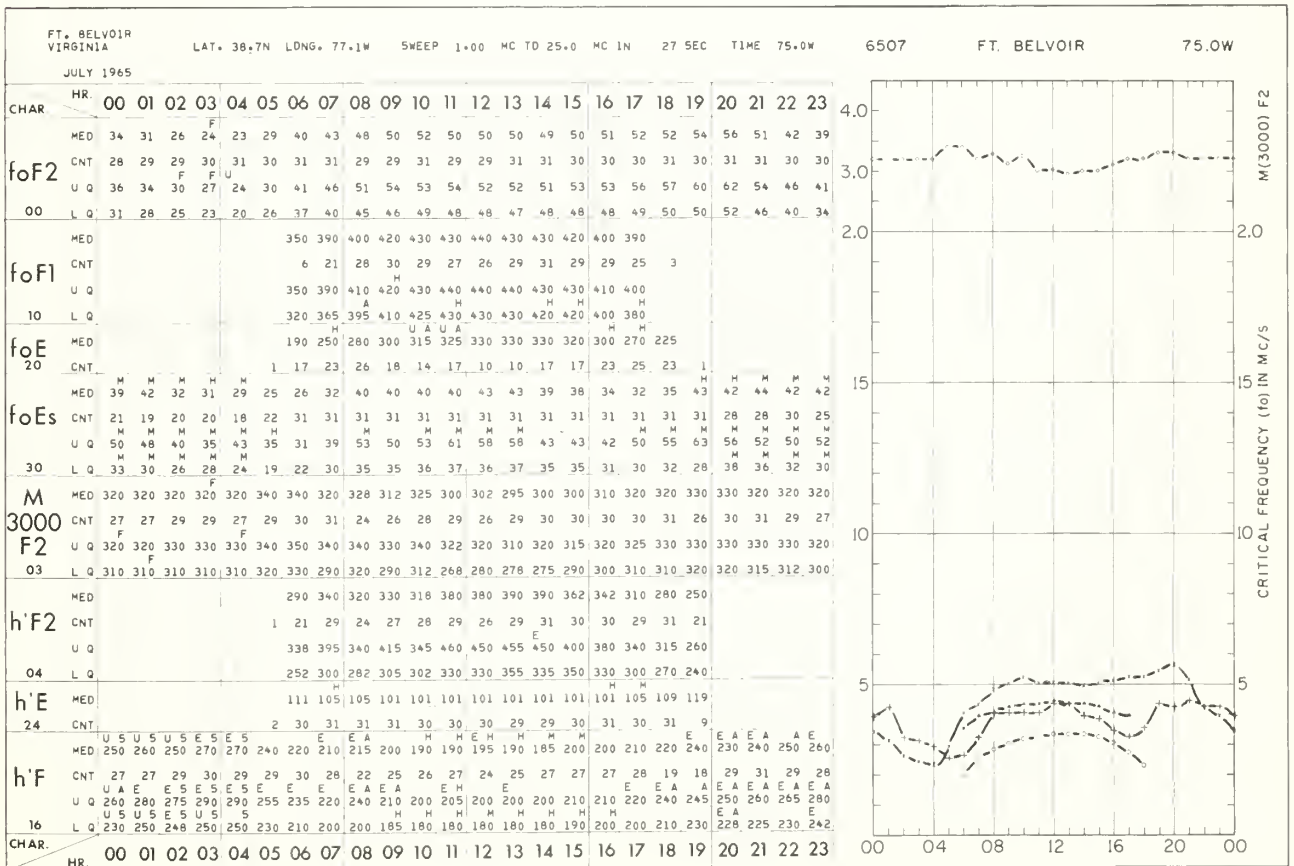
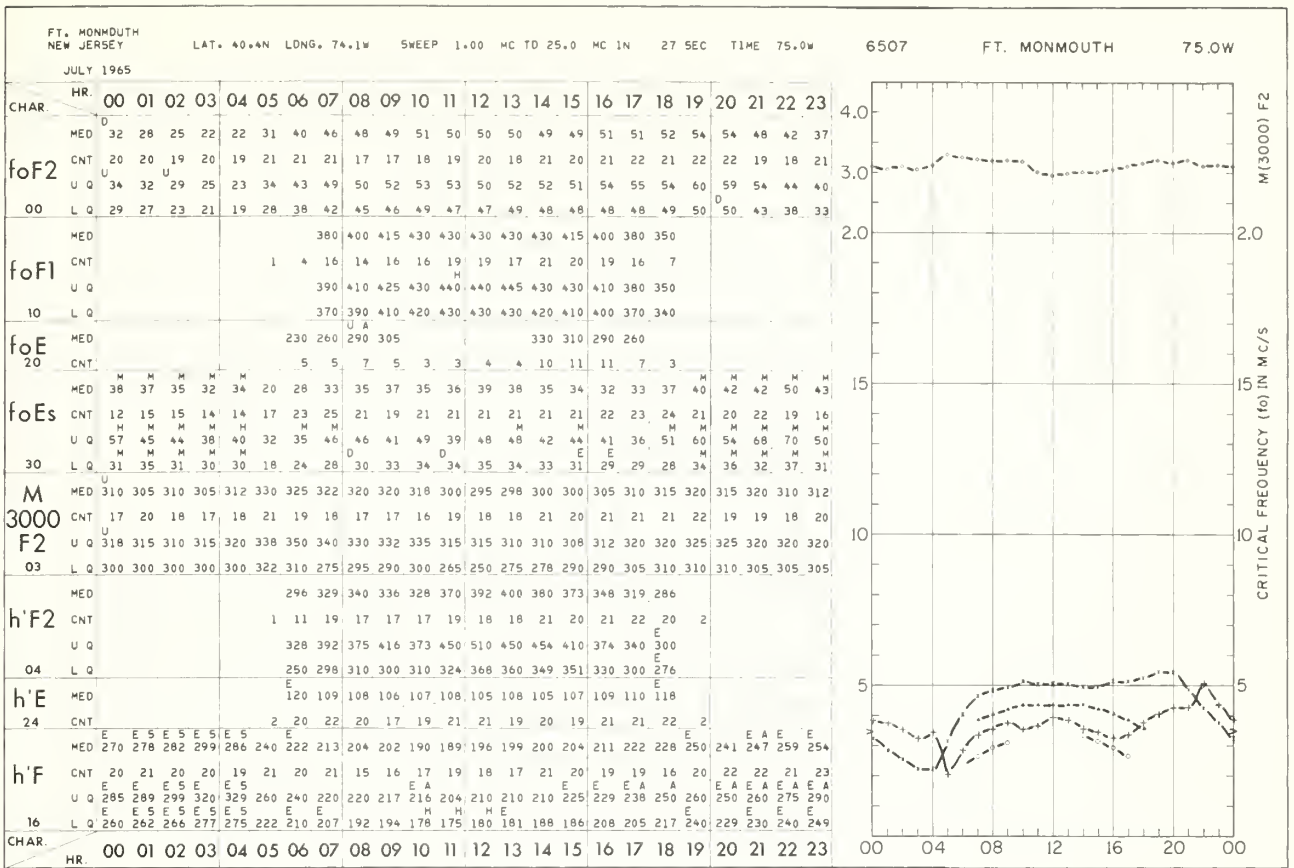


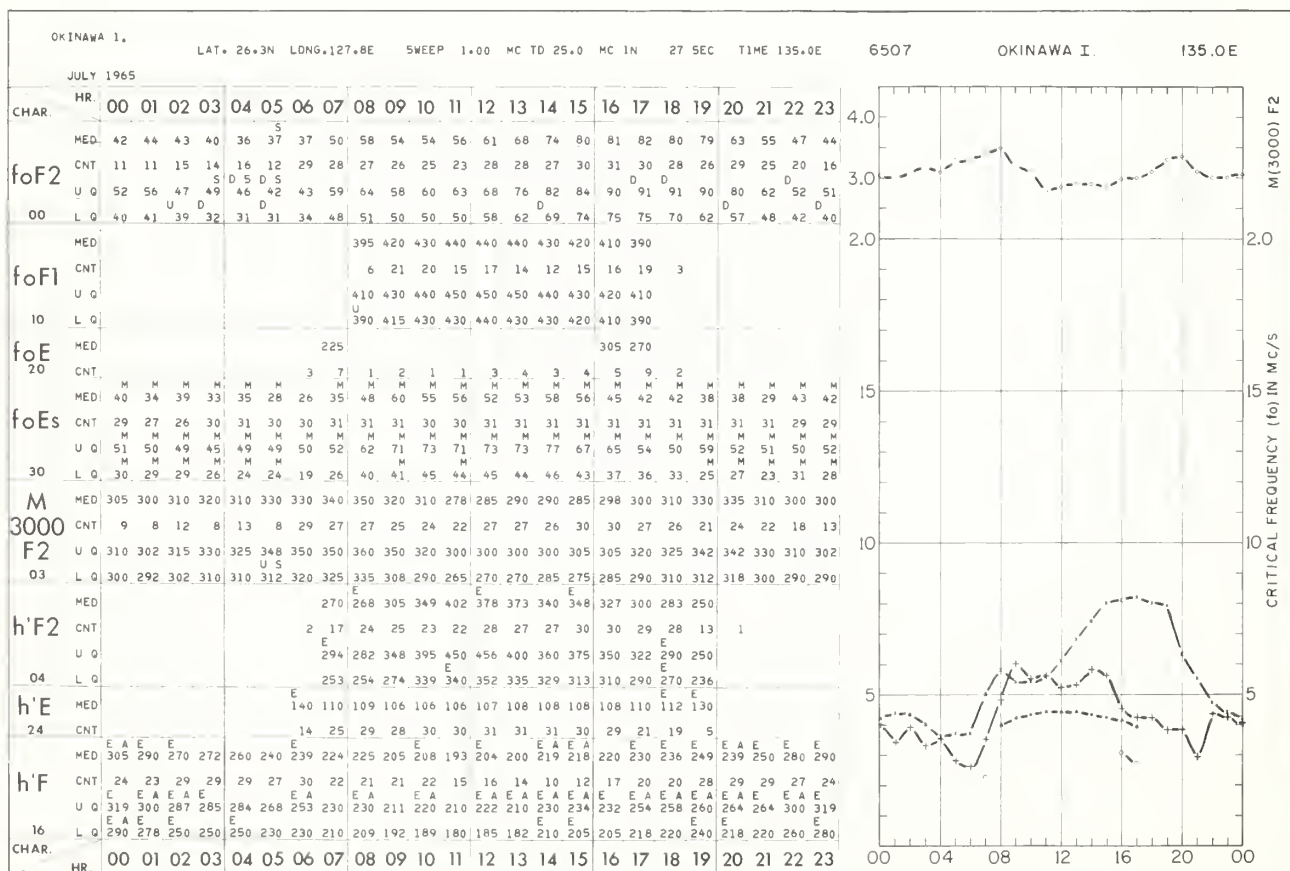
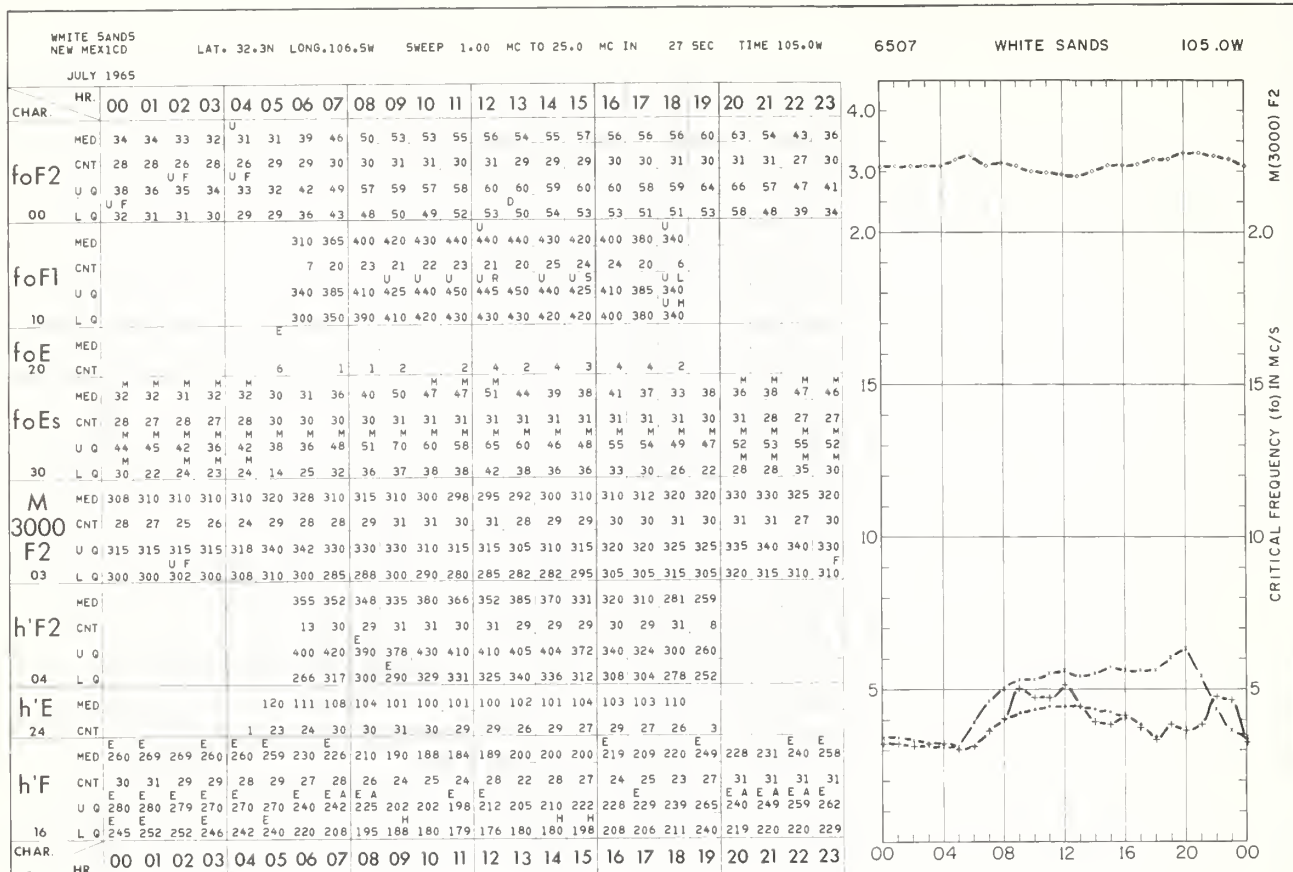




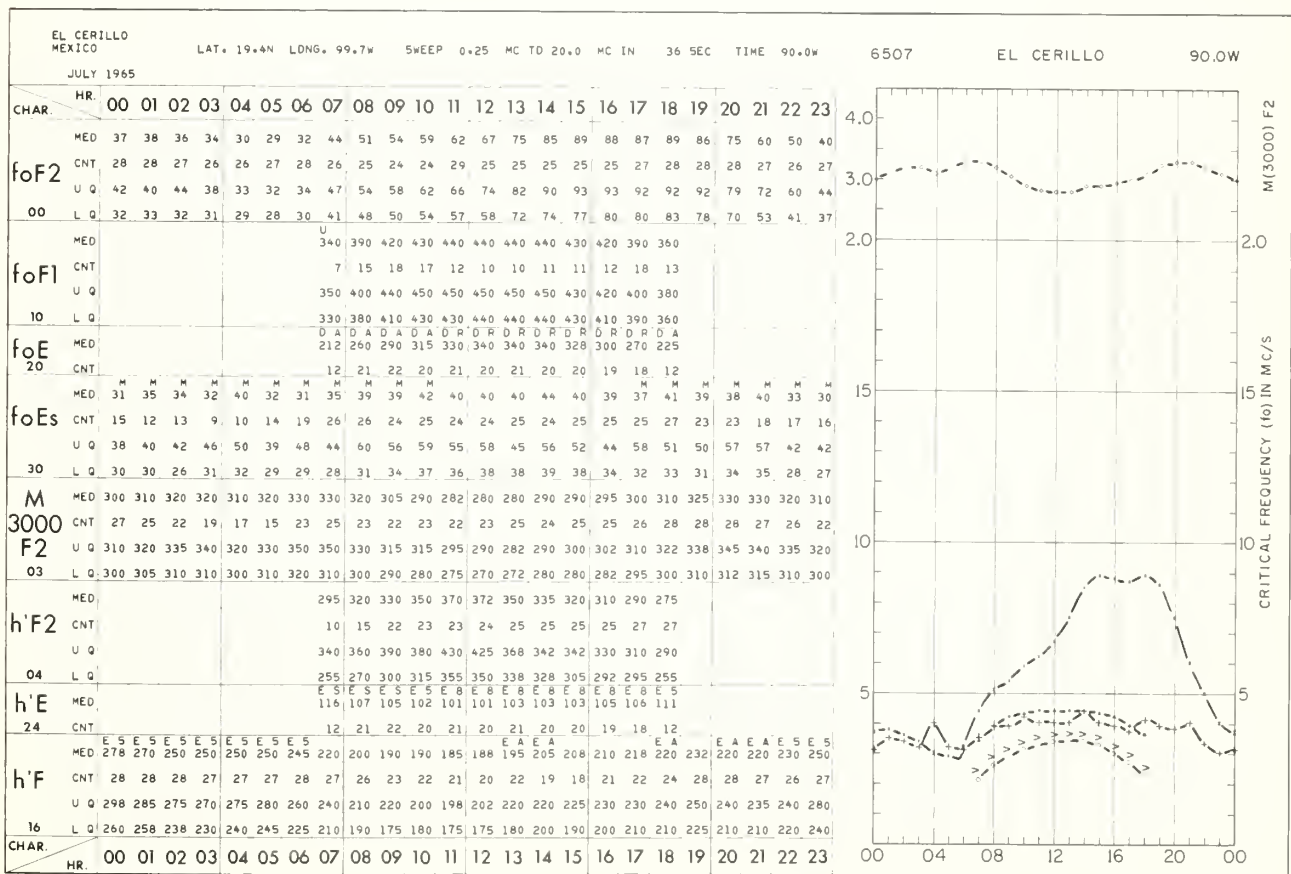
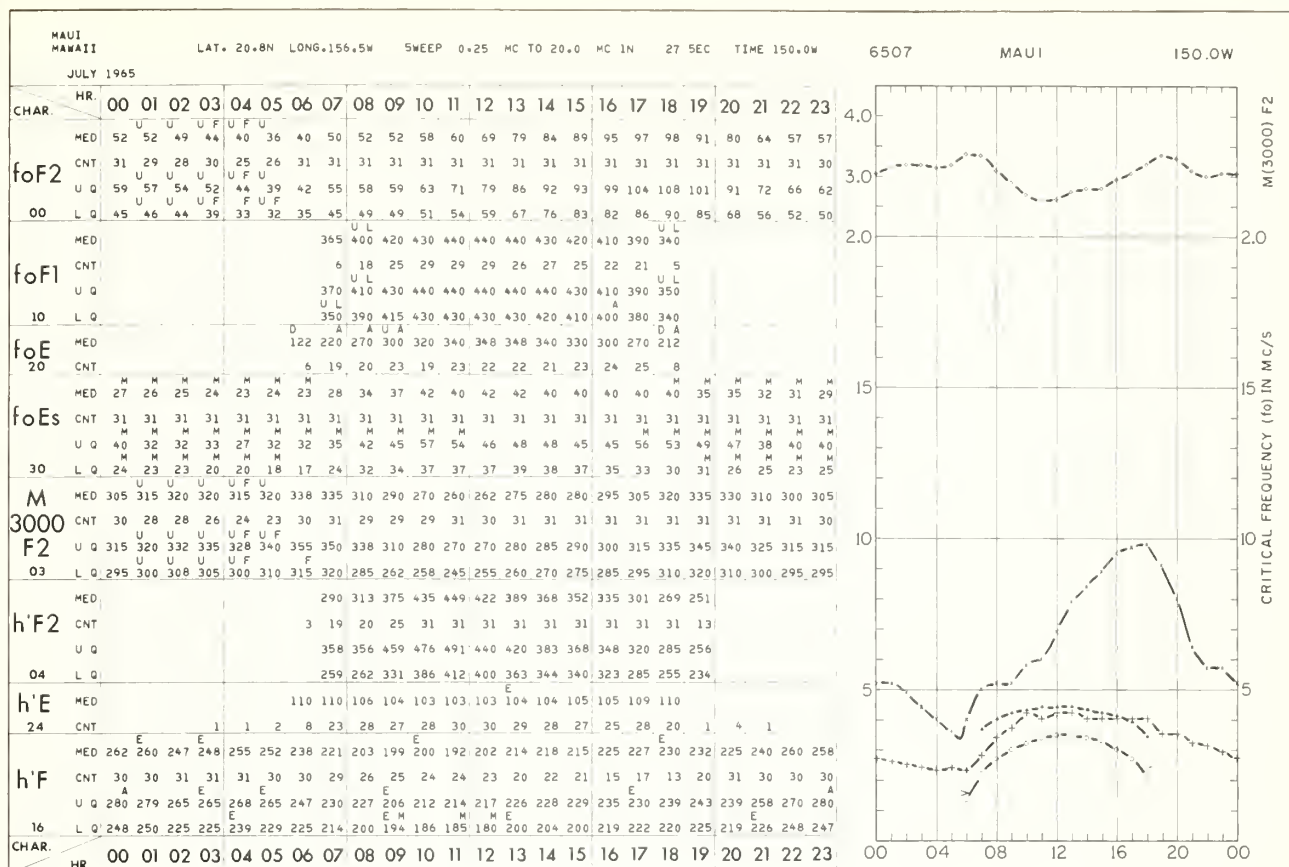




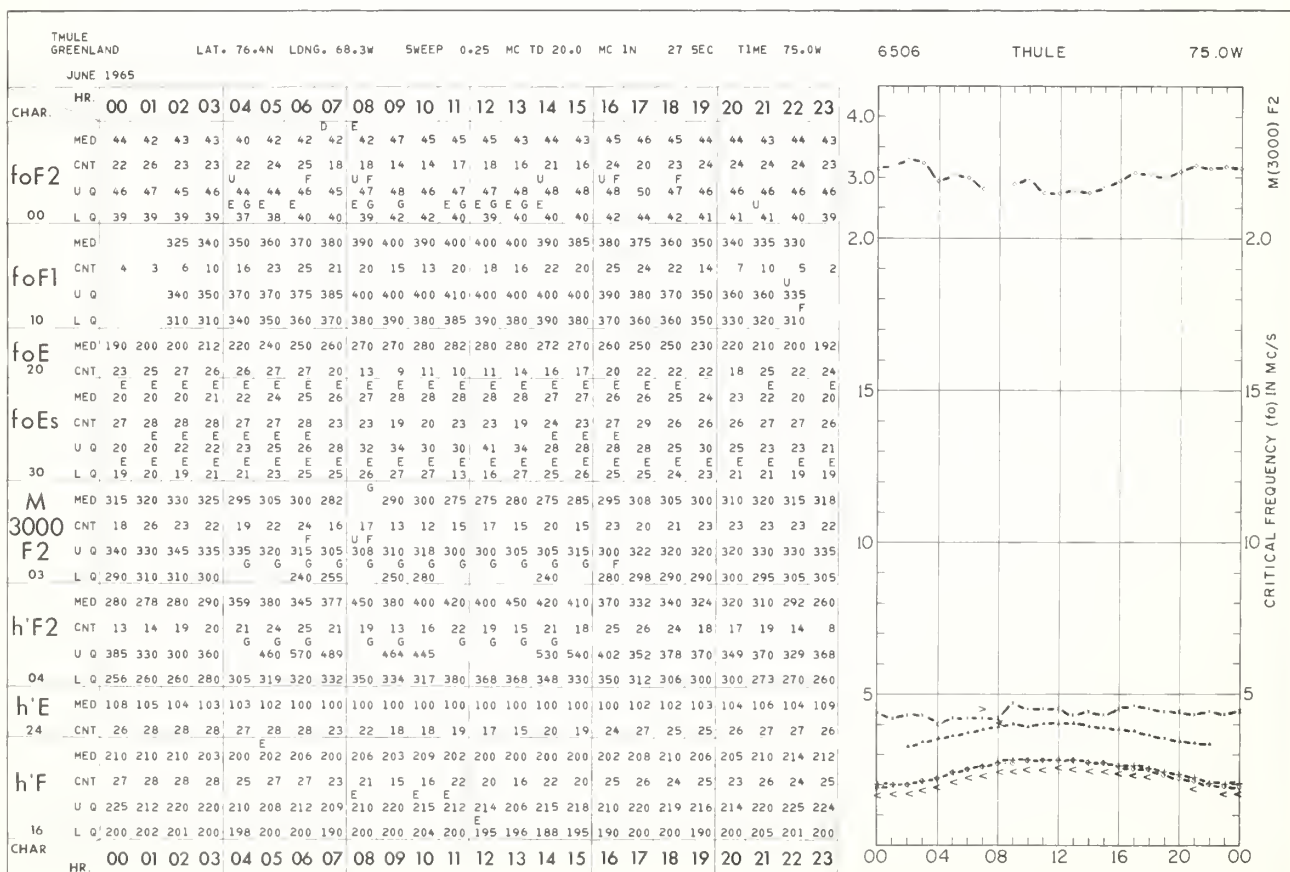
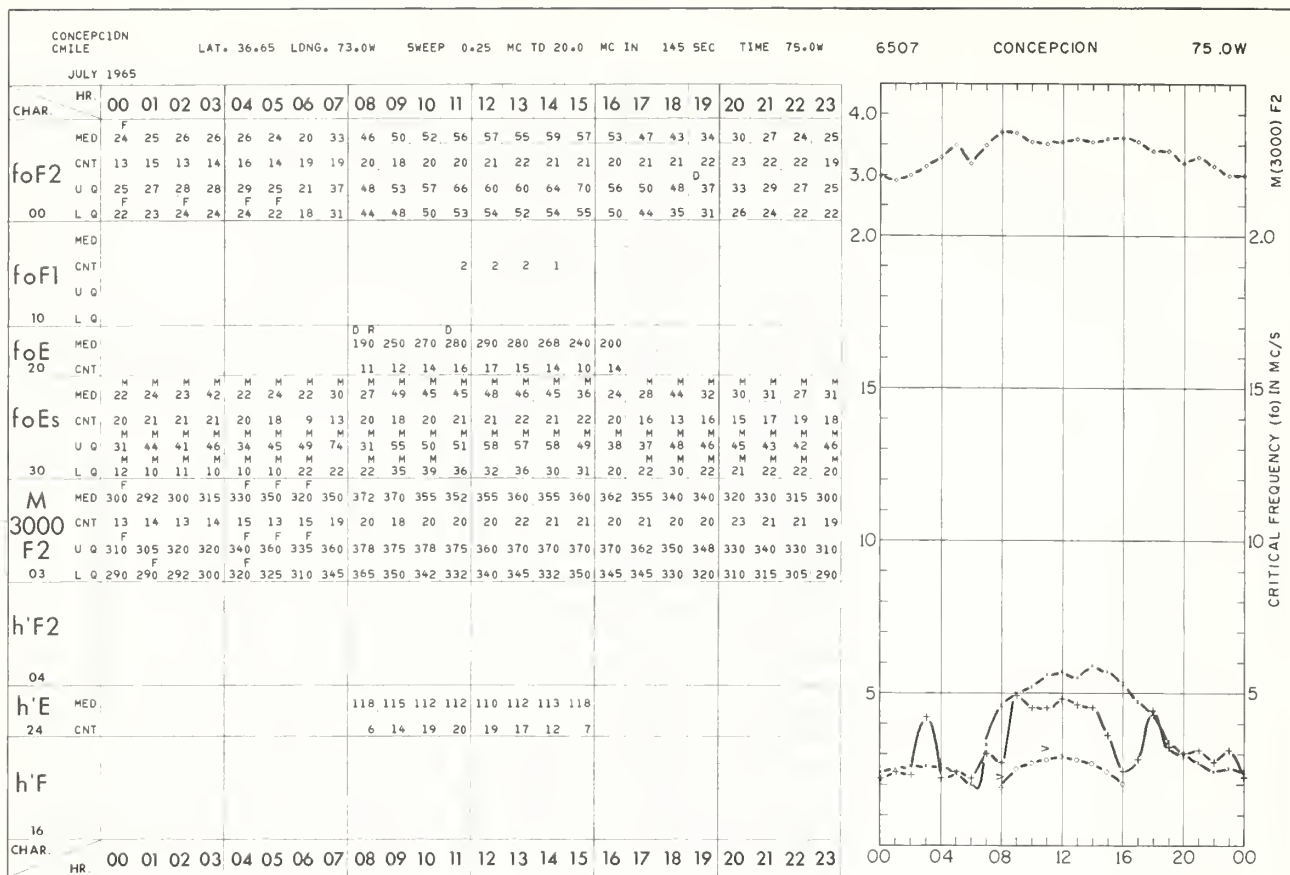


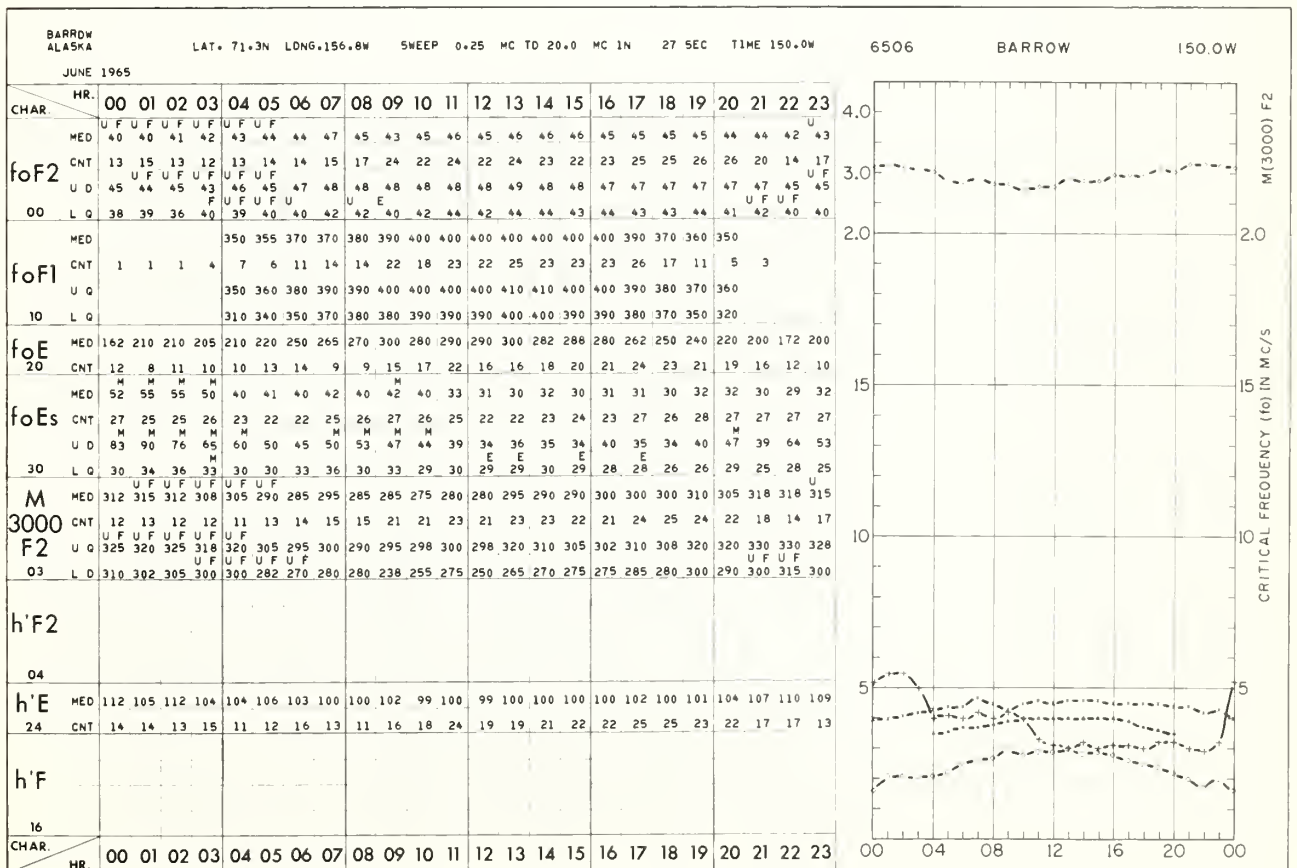
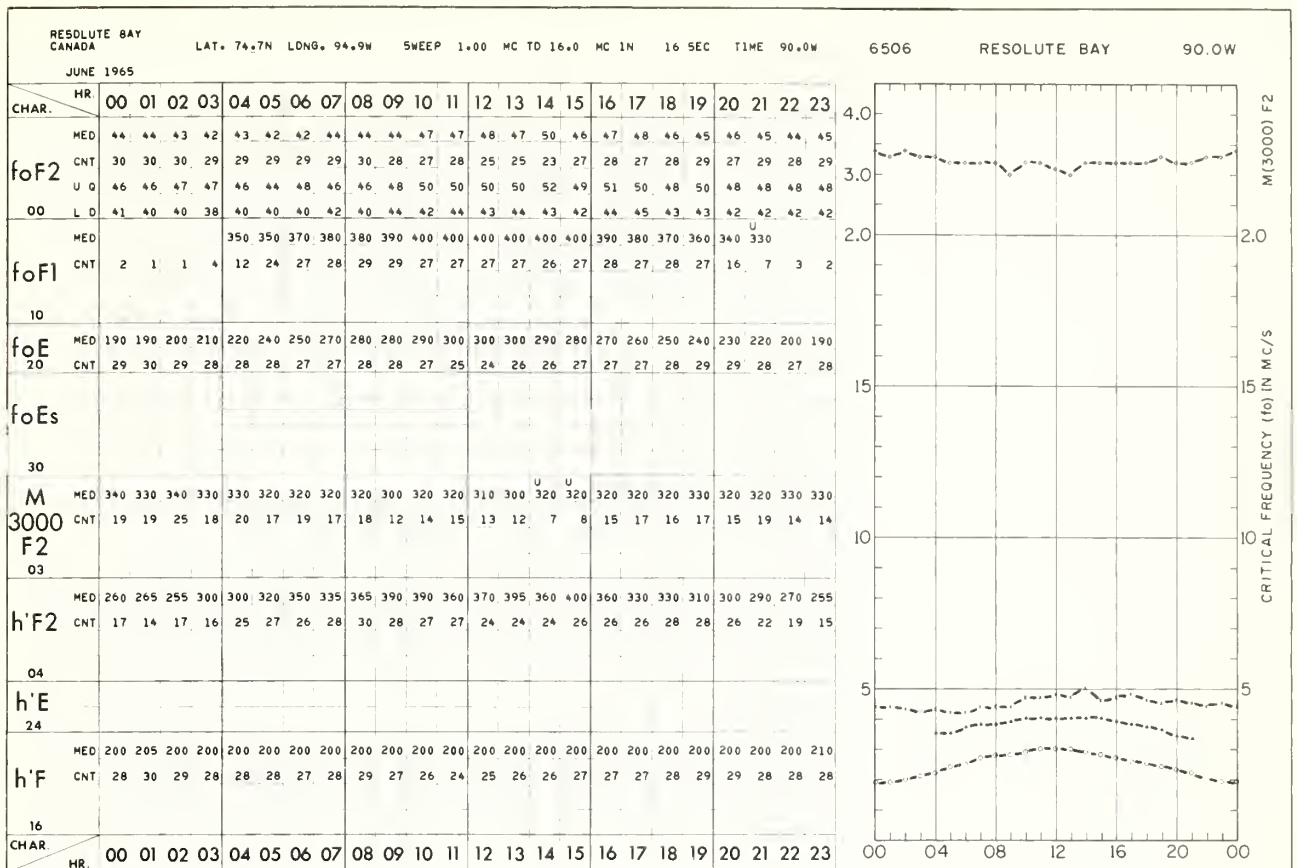


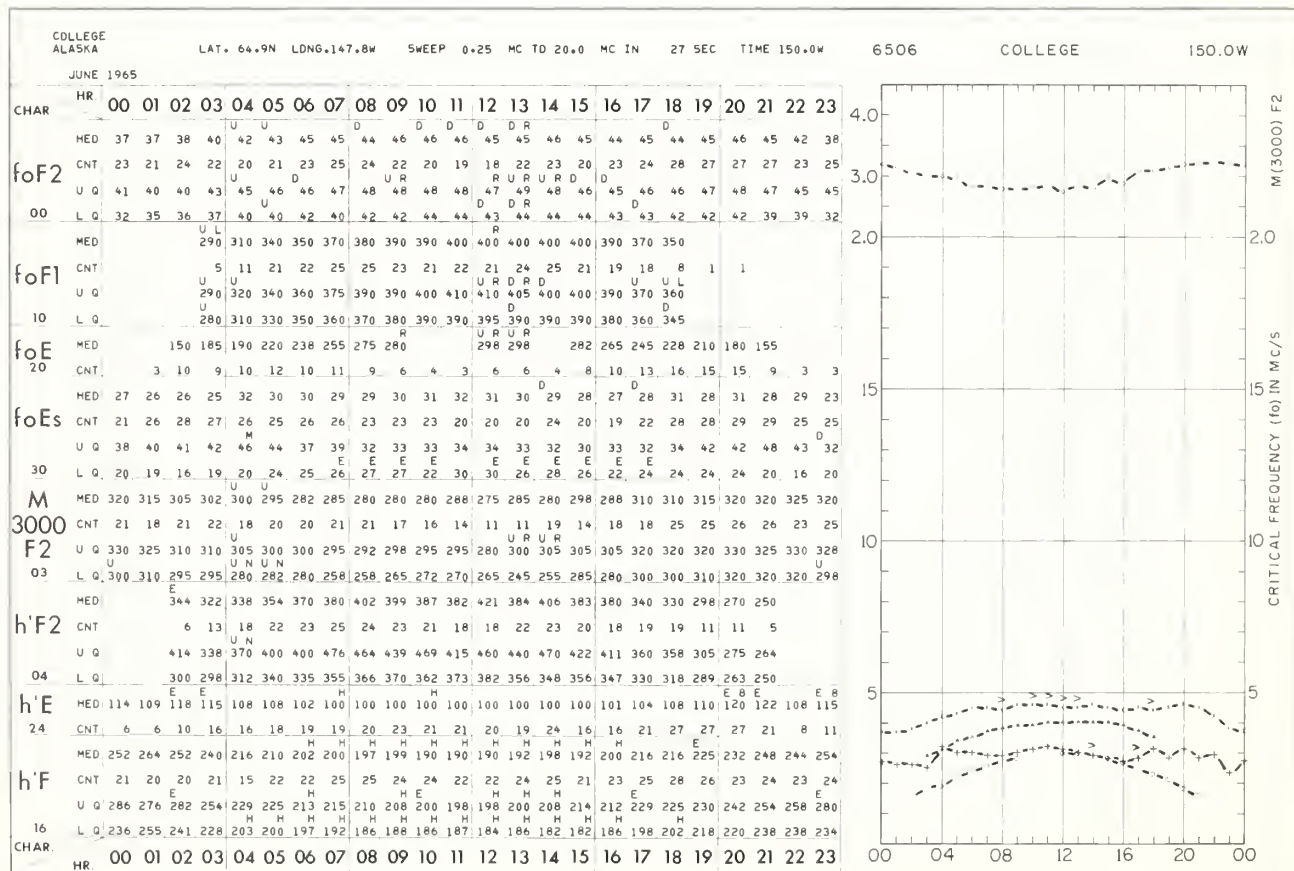
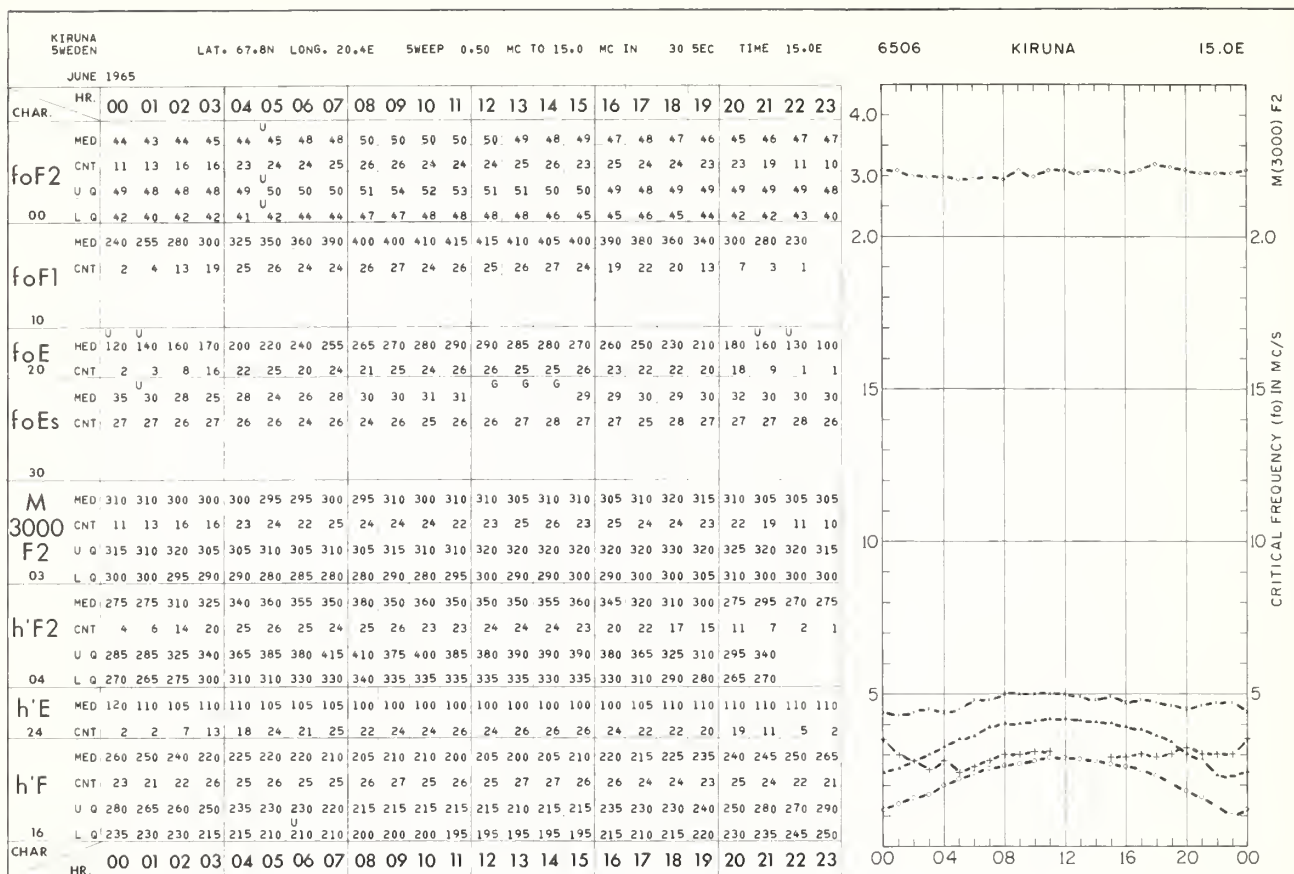




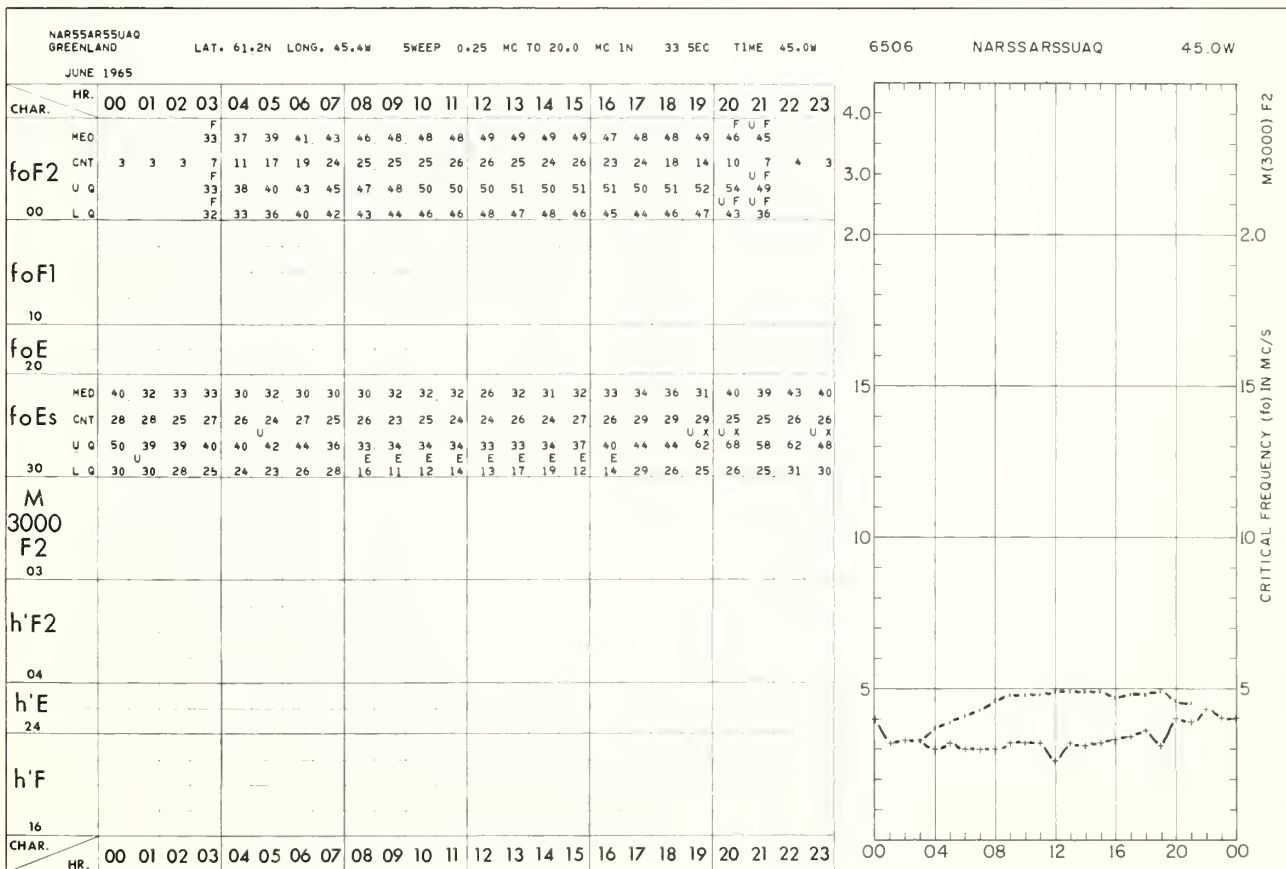
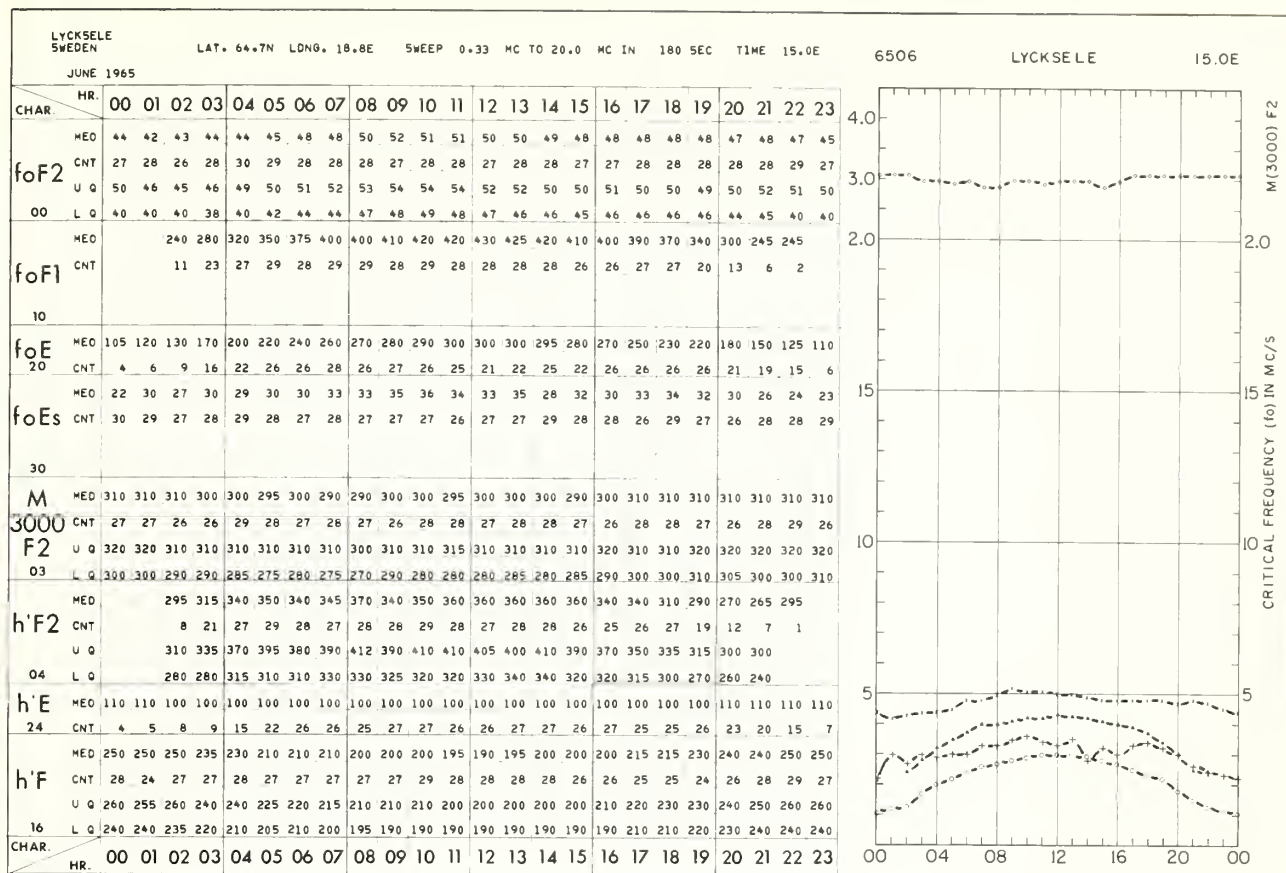


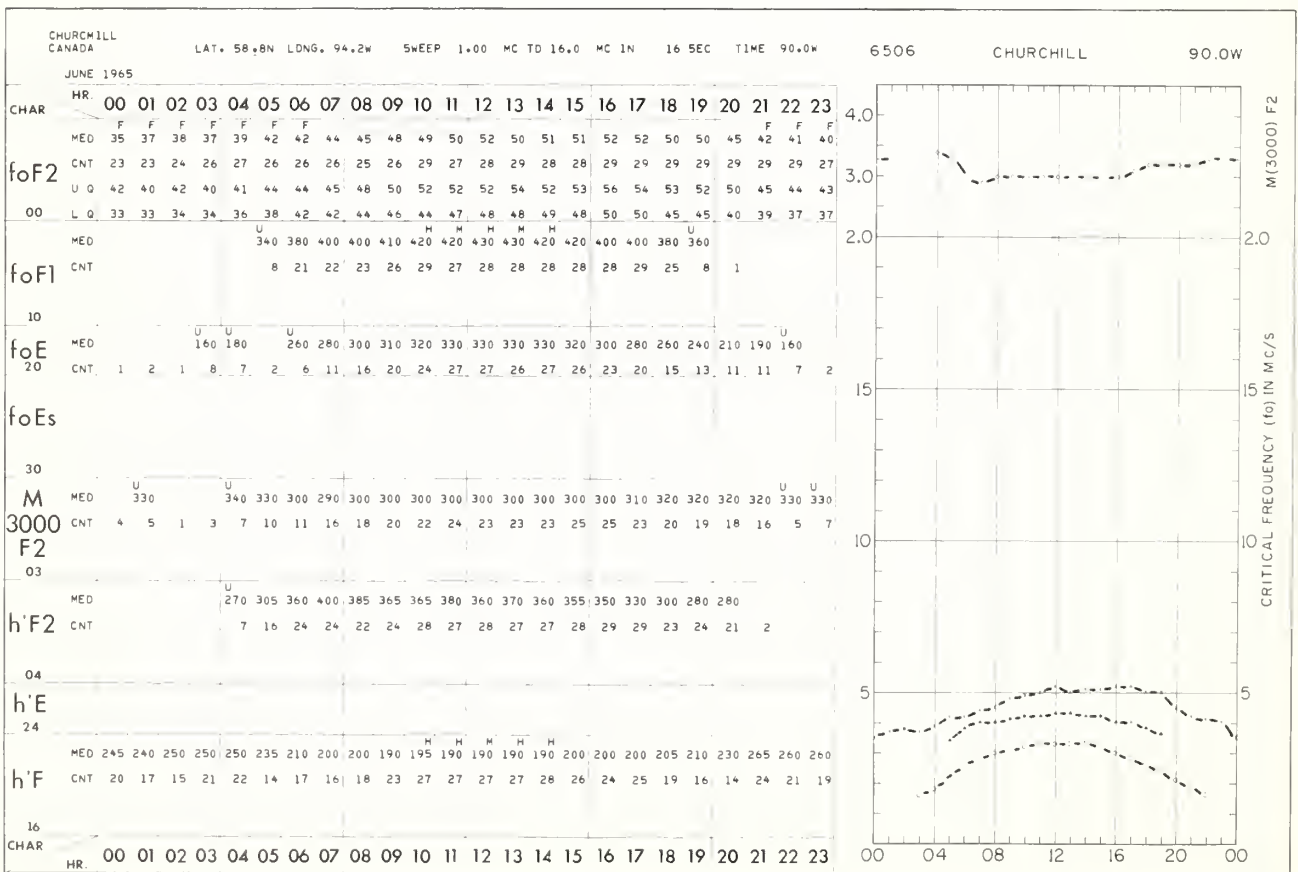
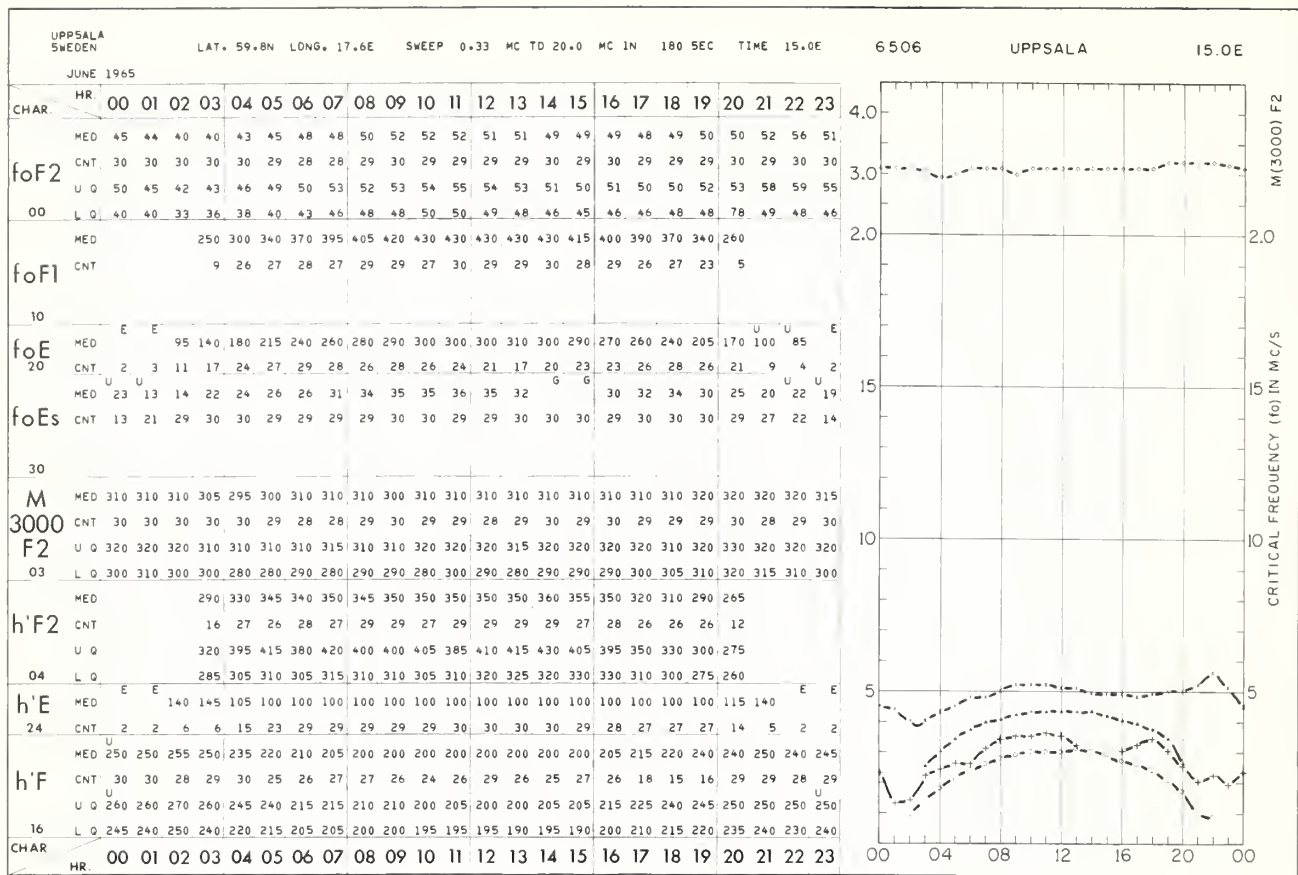


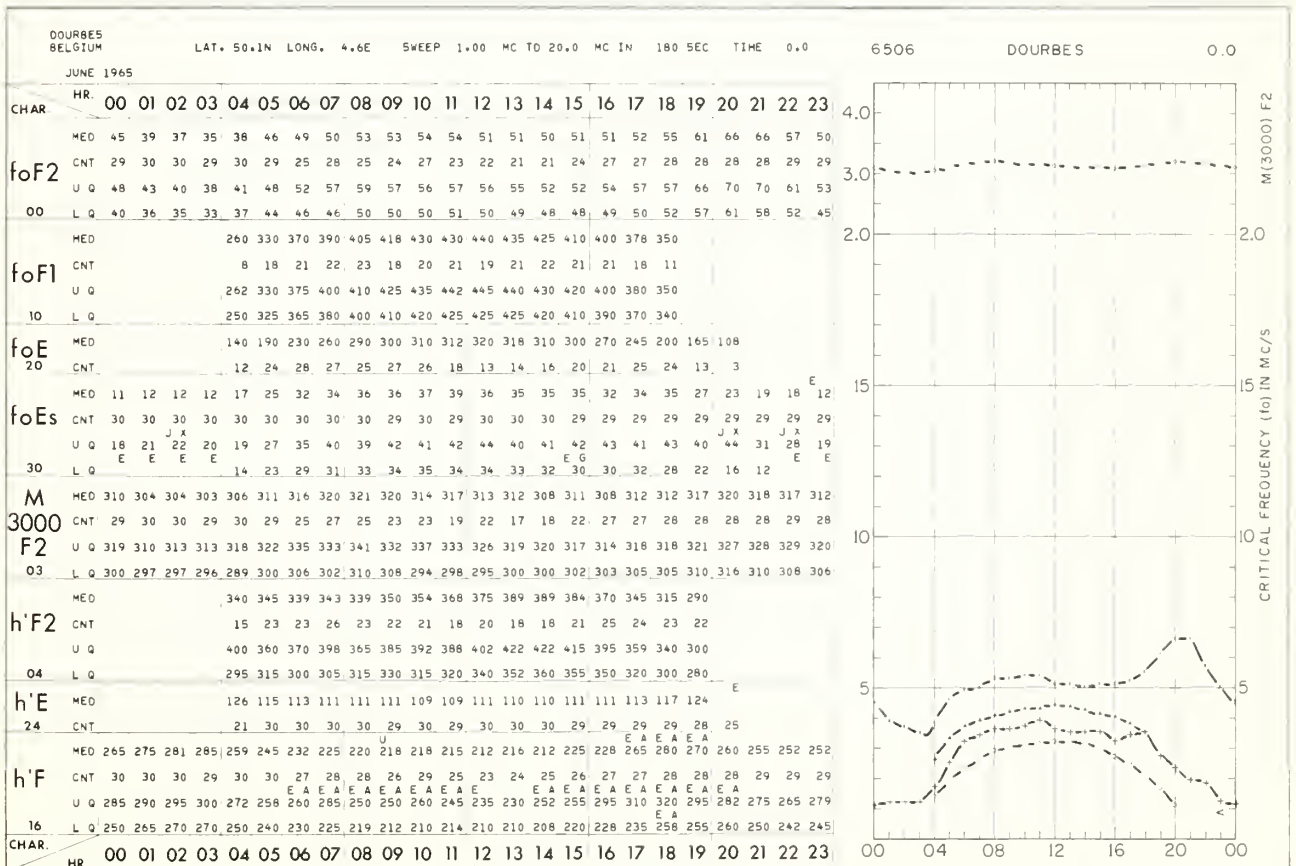
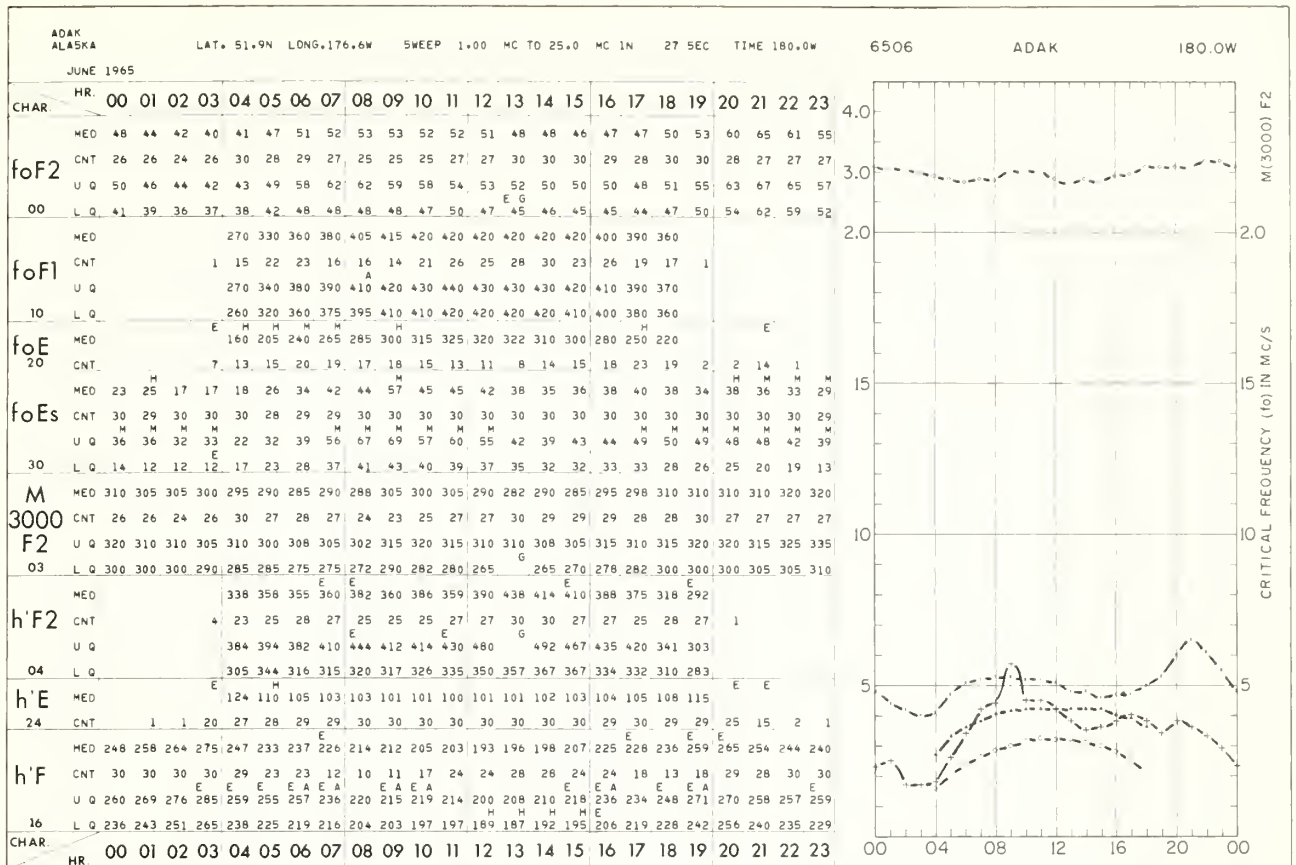


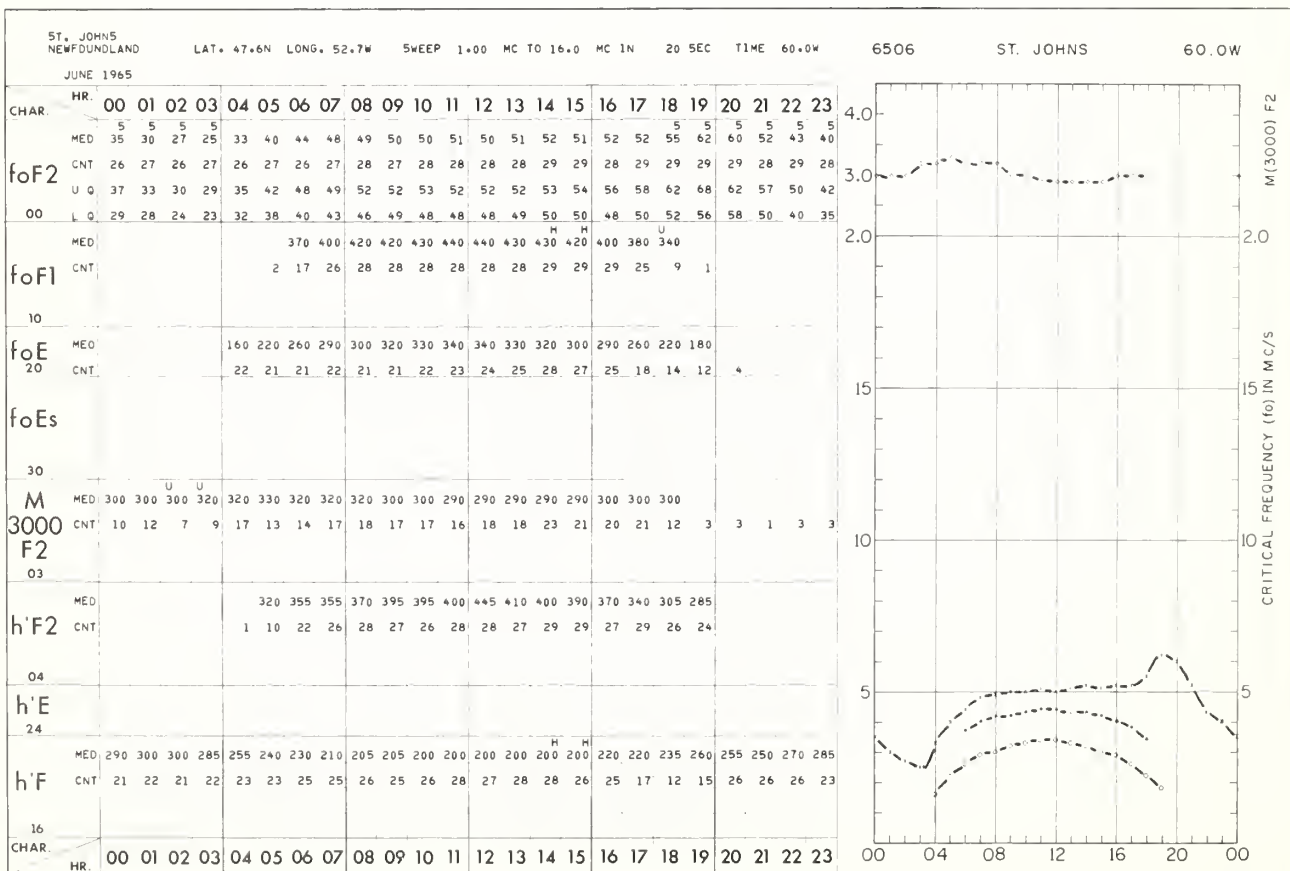
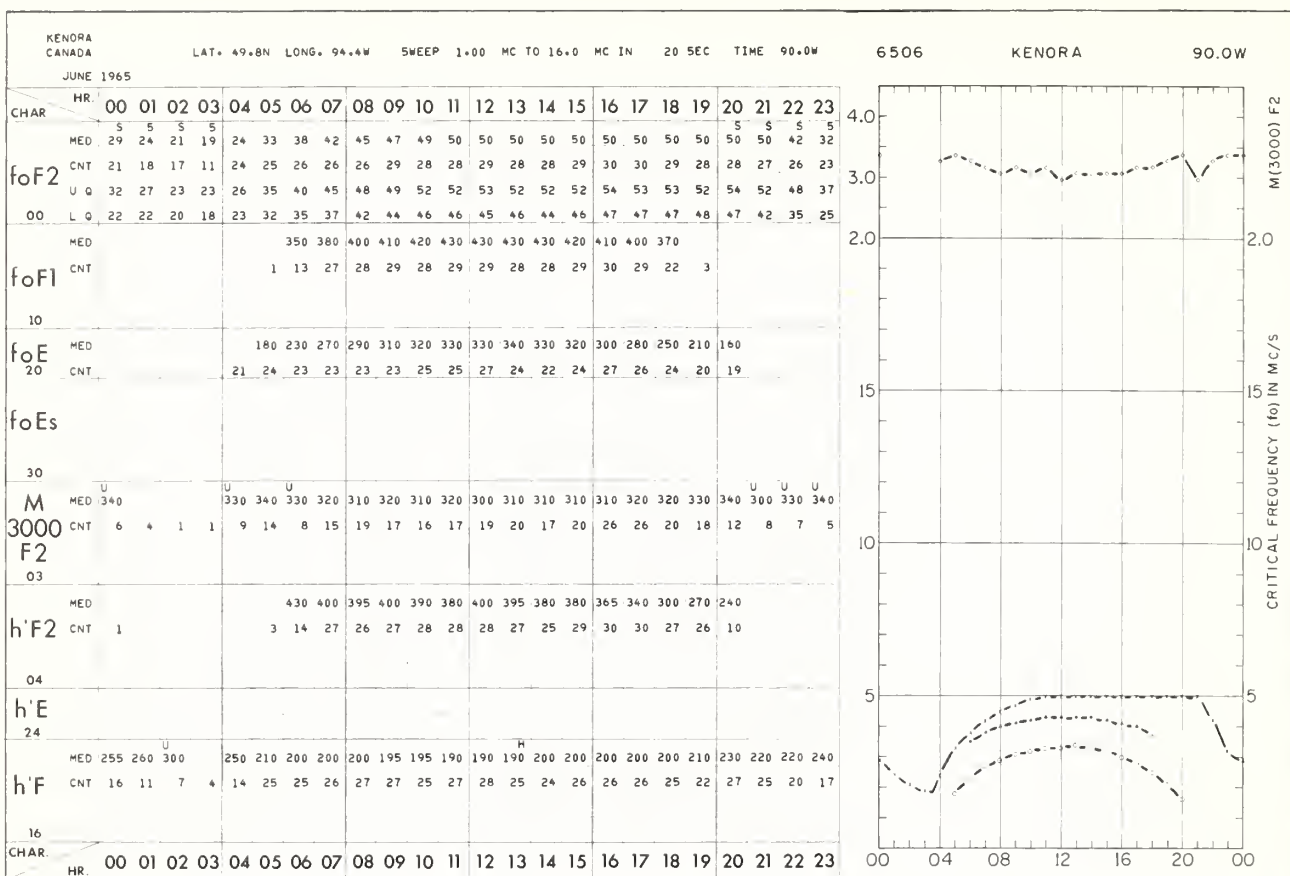




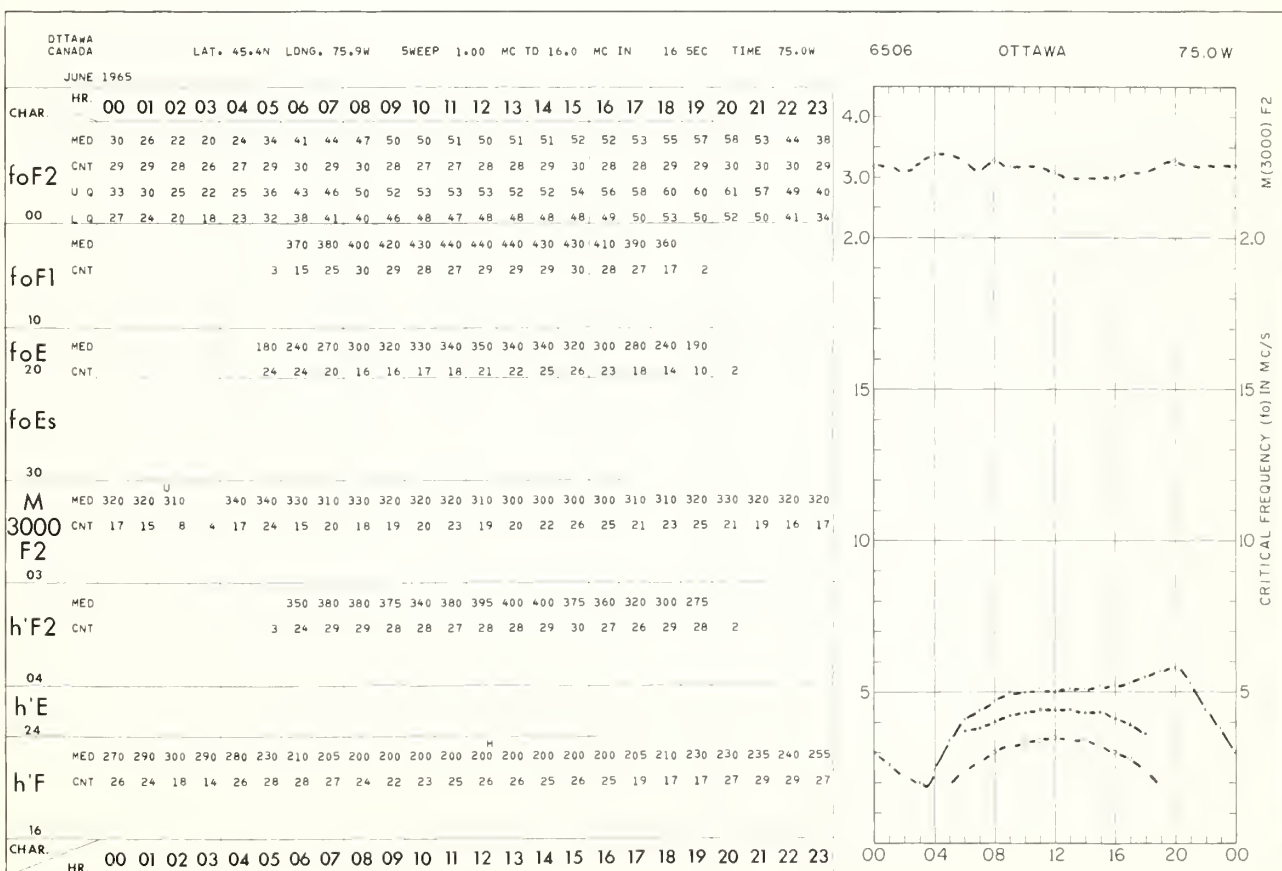
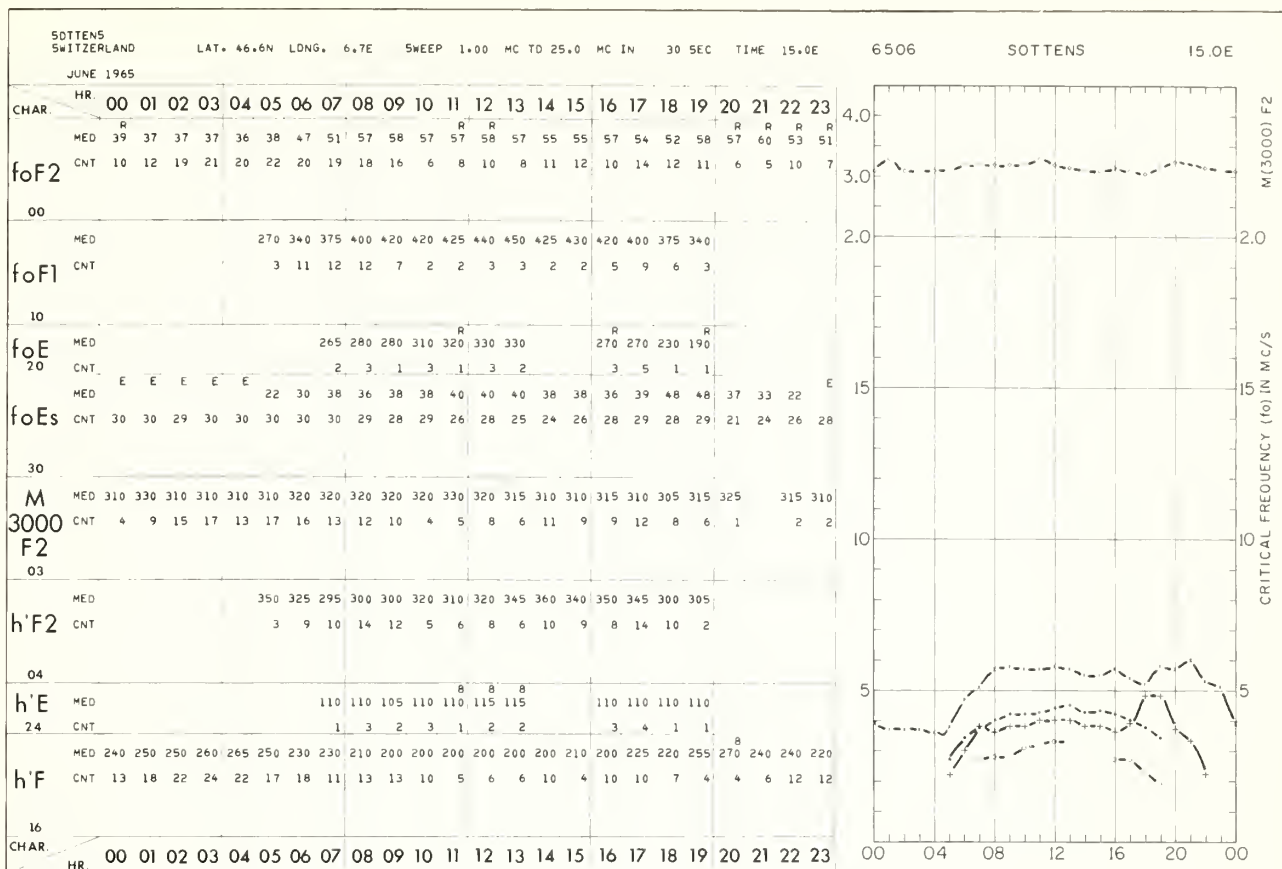






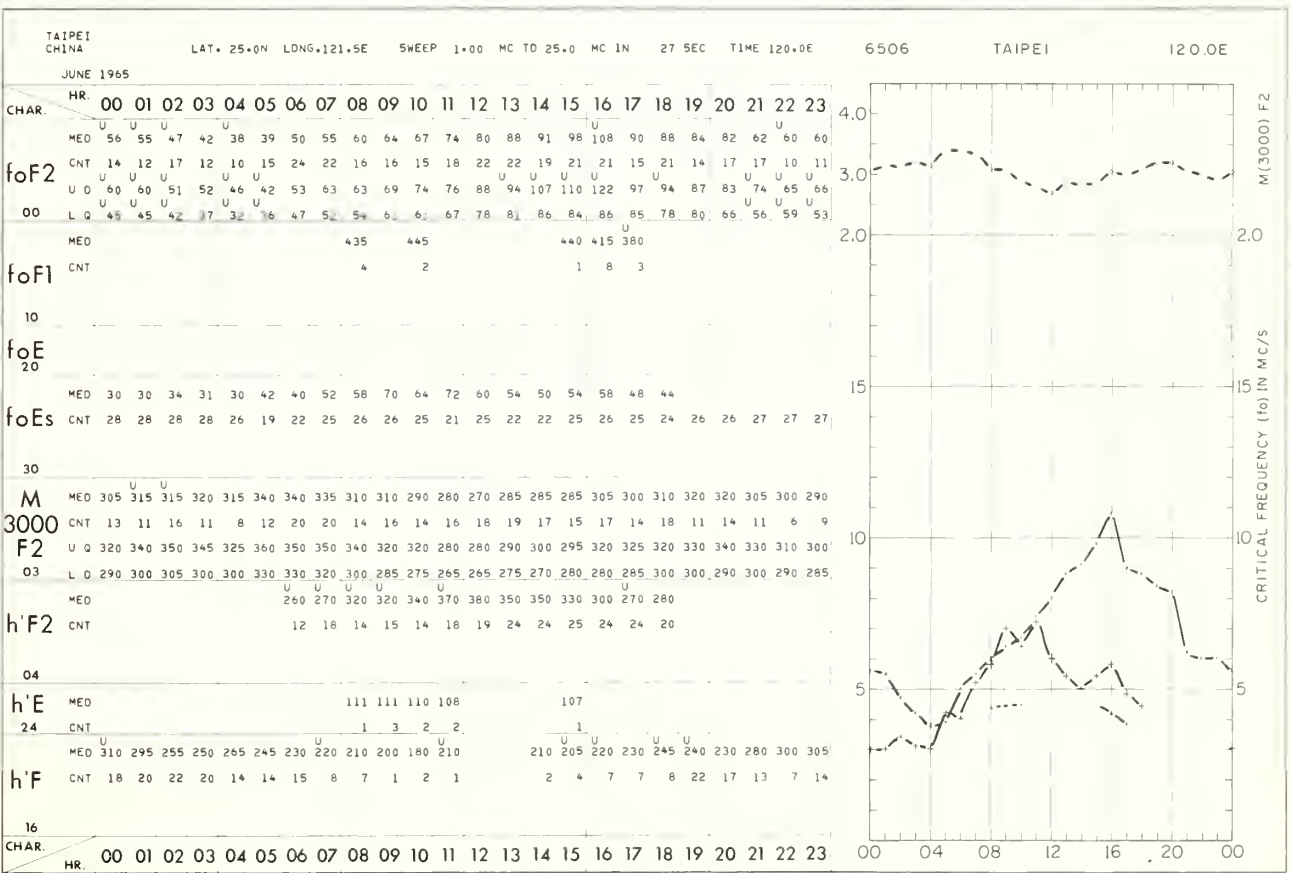
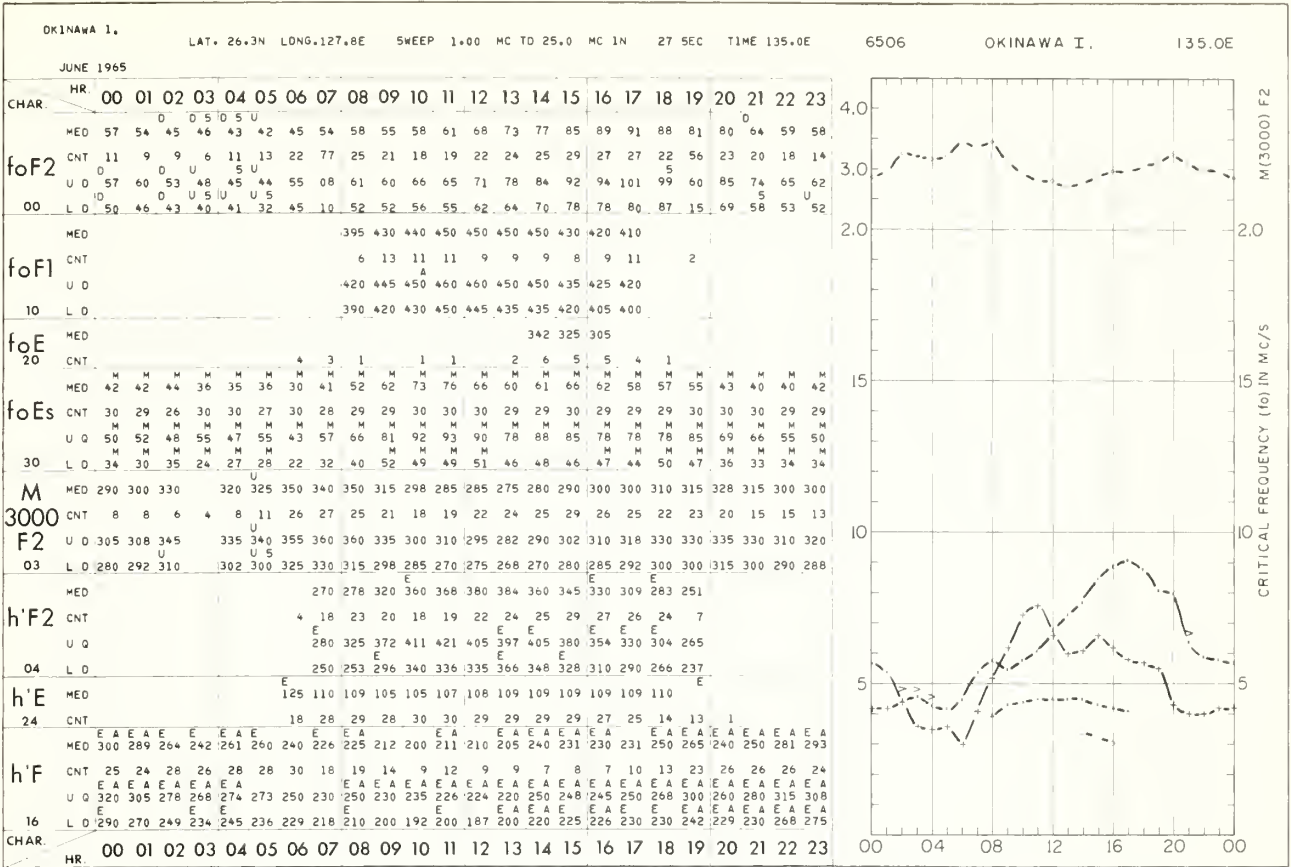


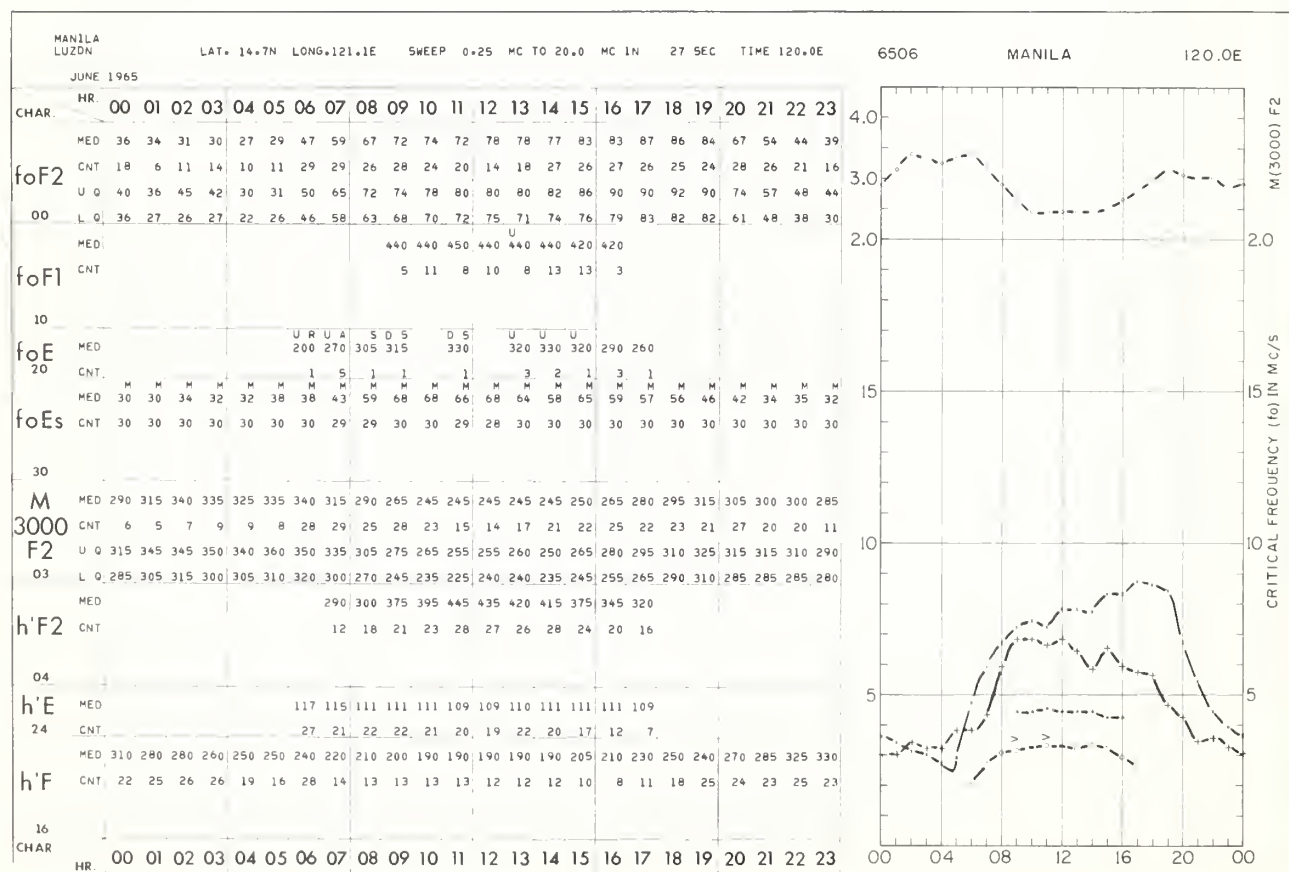
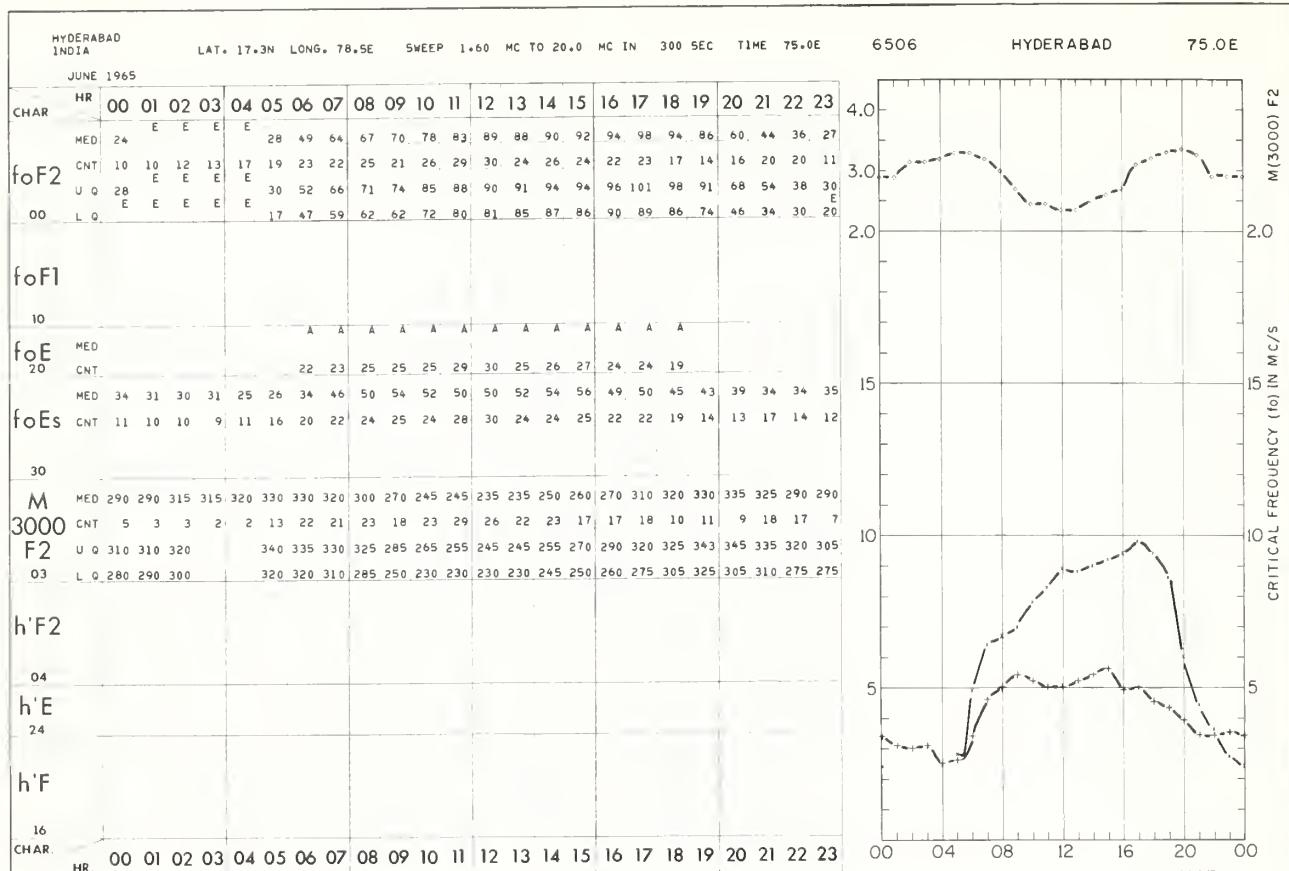




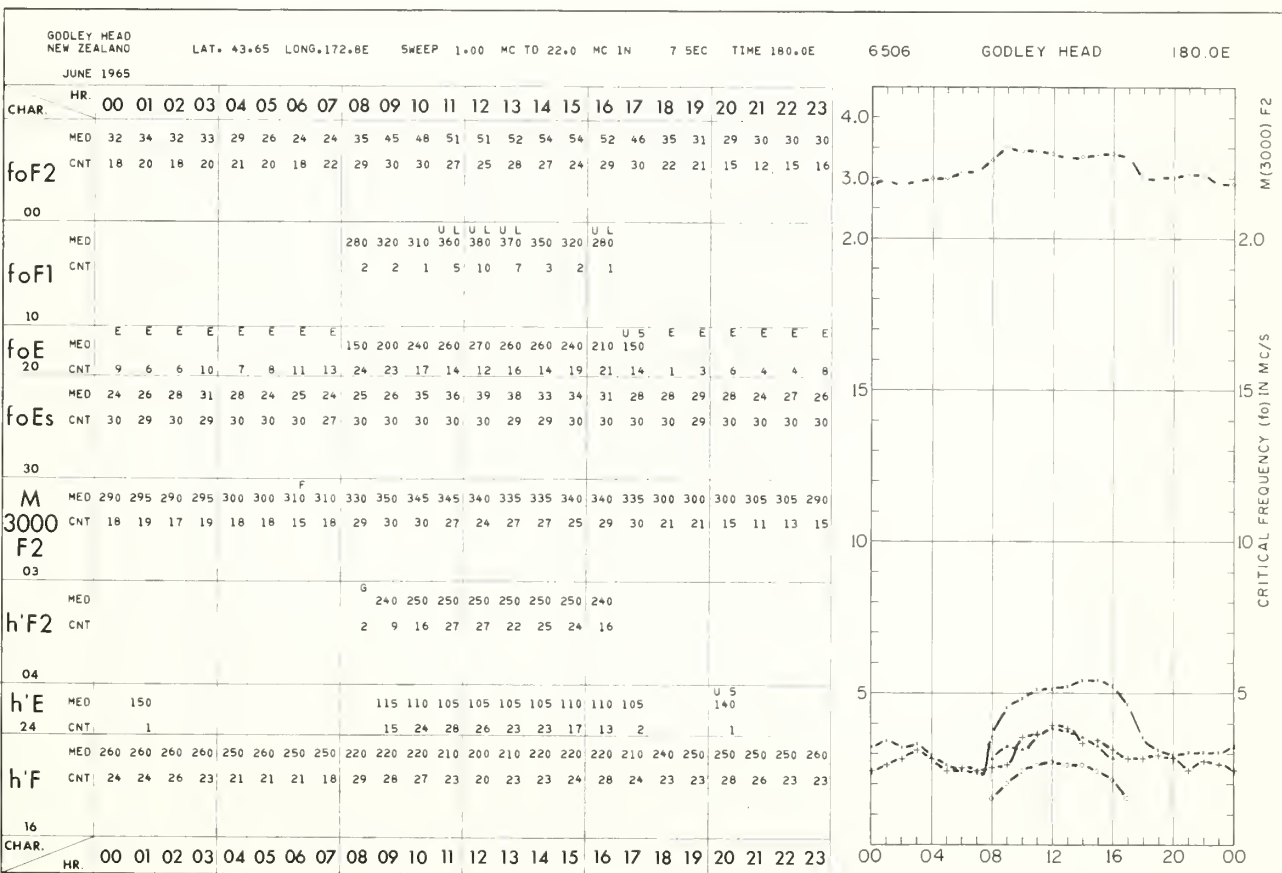
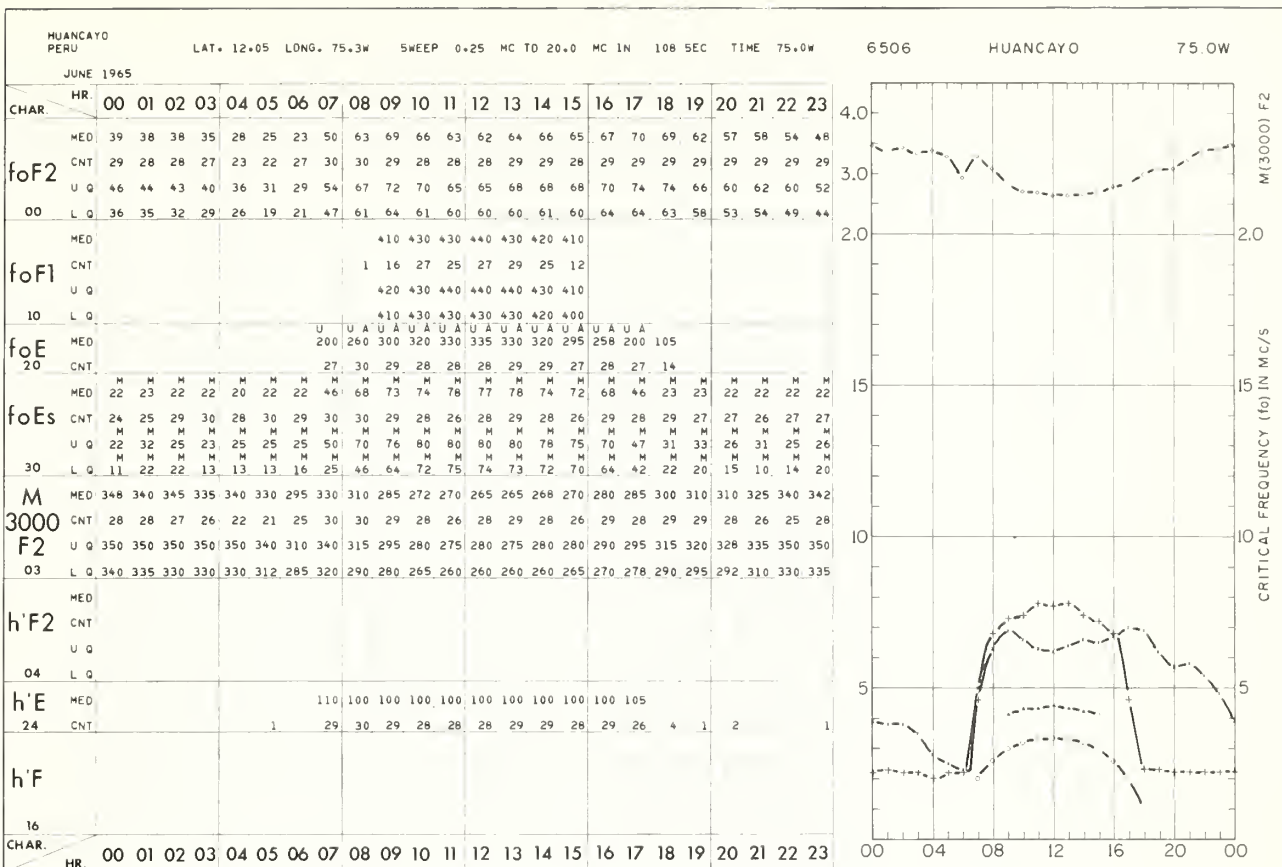
The graph plots two variables against time of day (00 to 00). The top y-axis is M(3000) F2 (2.0 to 4.0), and the bottom y-axis is CRITICAL FREQUENCY (f<sub>c</sub>) IN MC/S (5 to 15). The top curve (solid line) shows M(3000) F2 values around 2.8-3.2. The bottom curve (dashed line) shows f<sub>c</sub> values around 4-7.5. A shaded region between the curves represents the range of values.

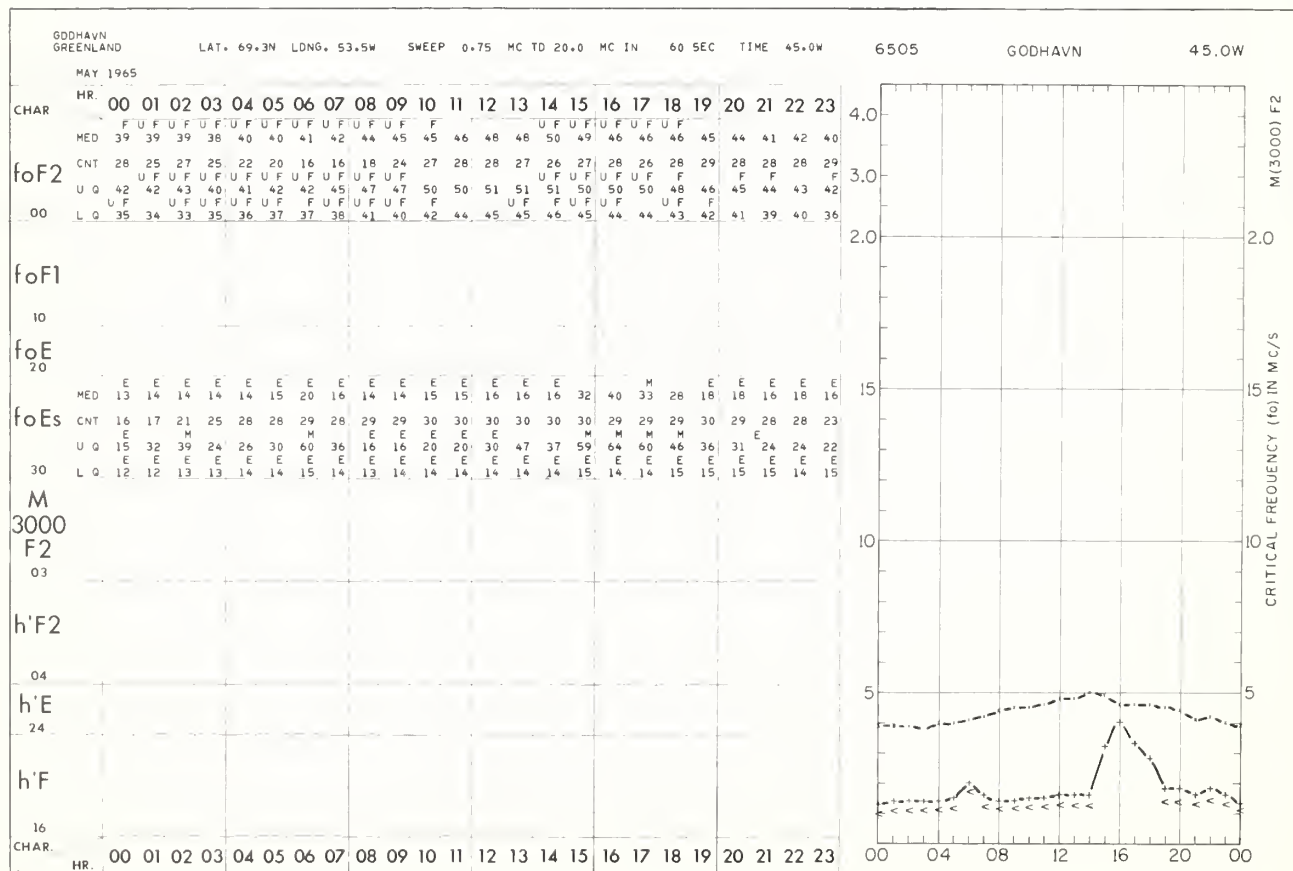
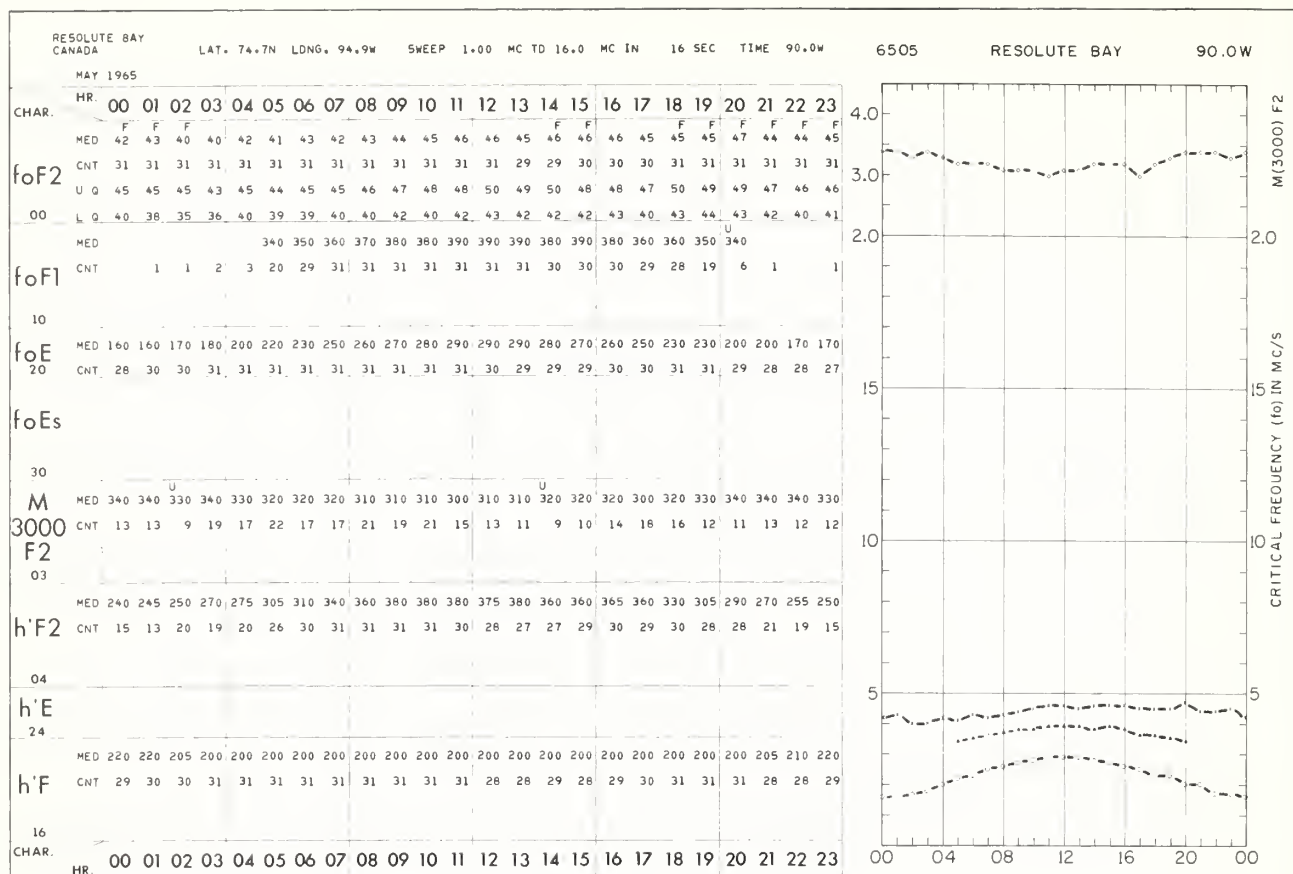
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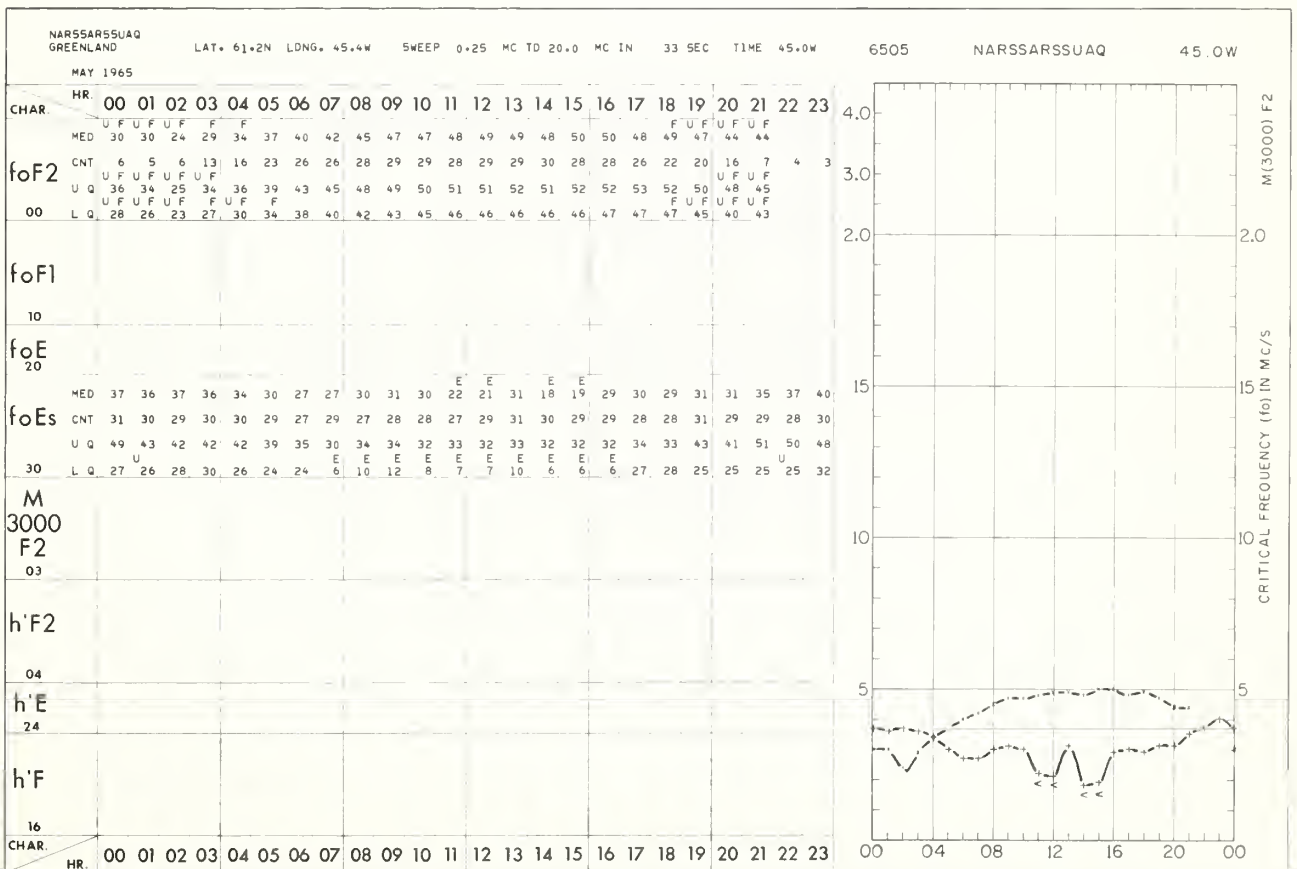
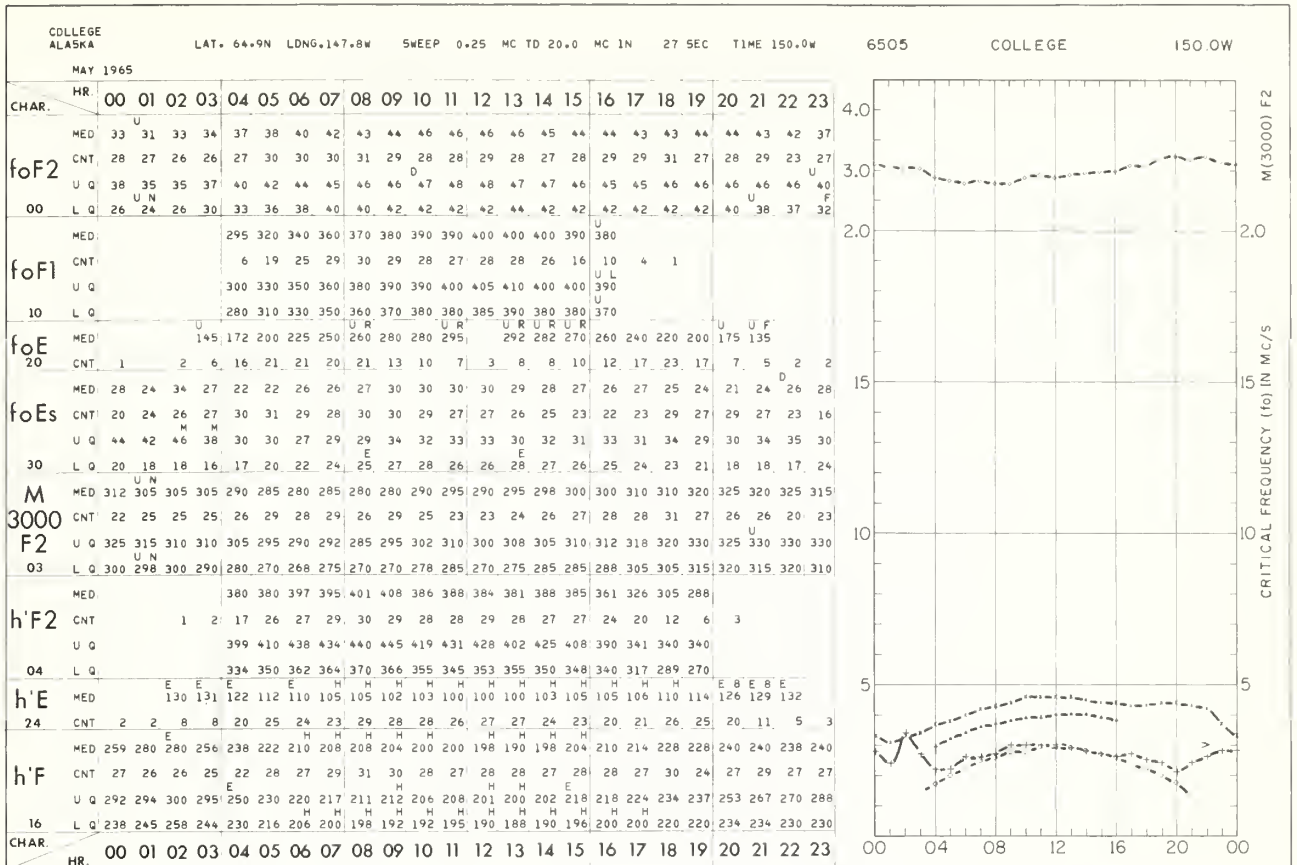




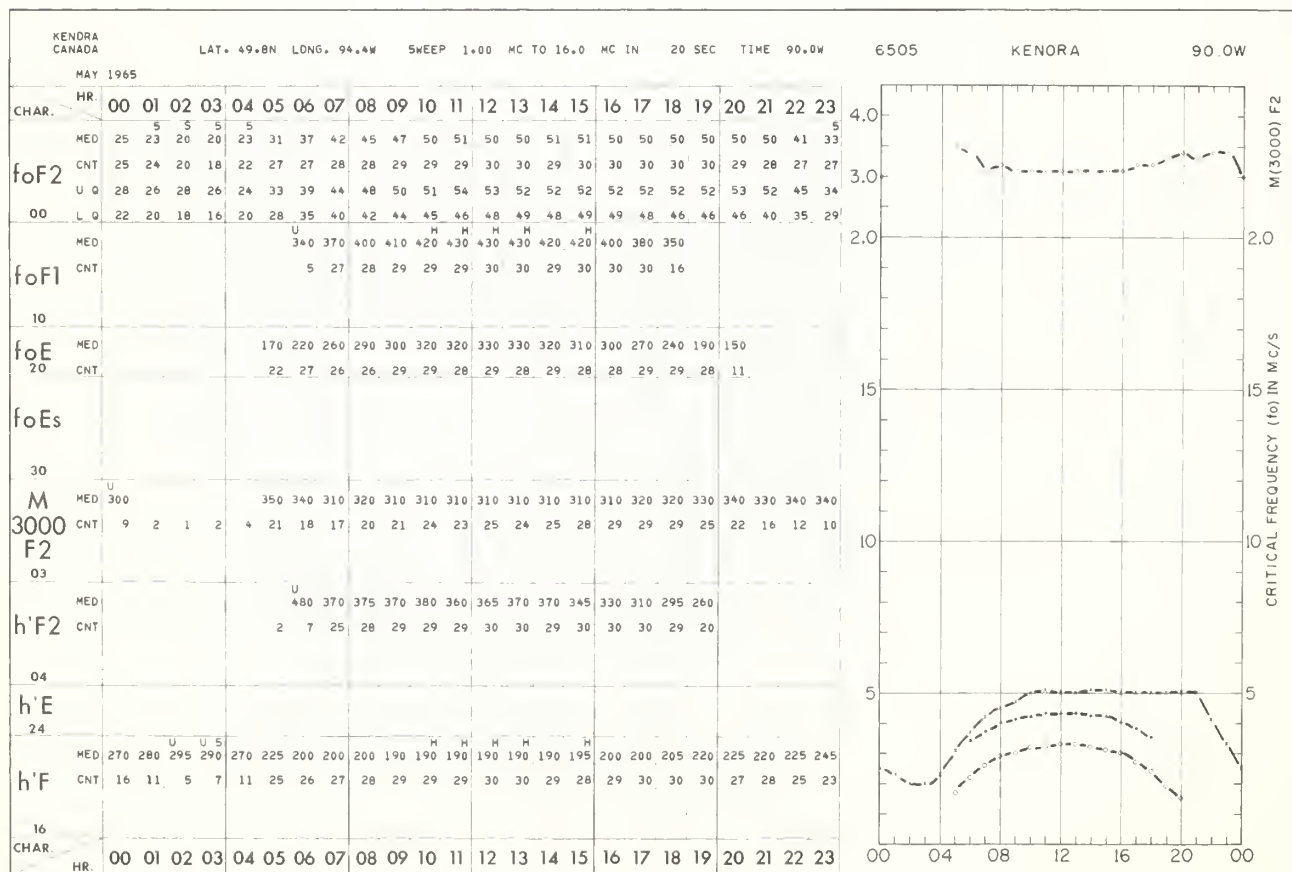
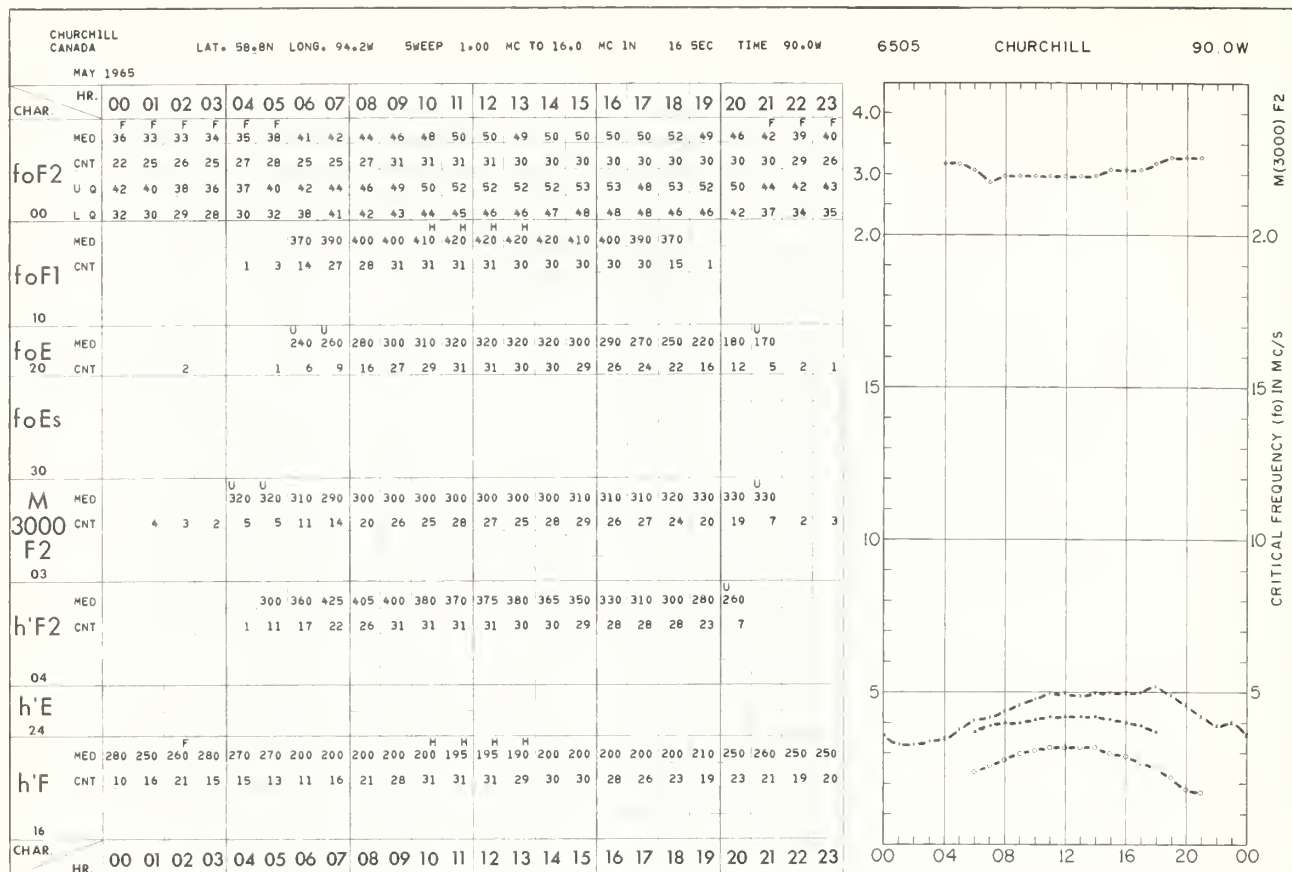


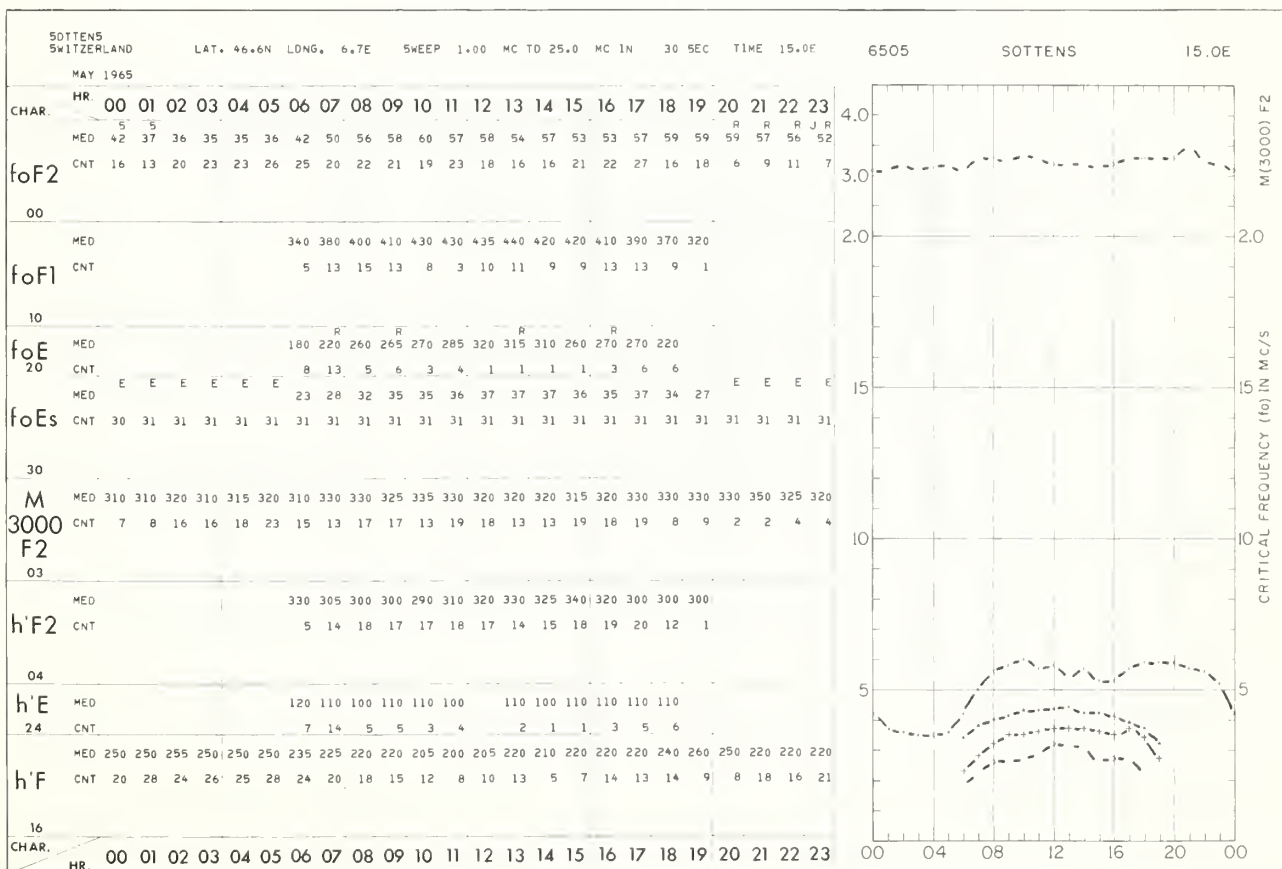
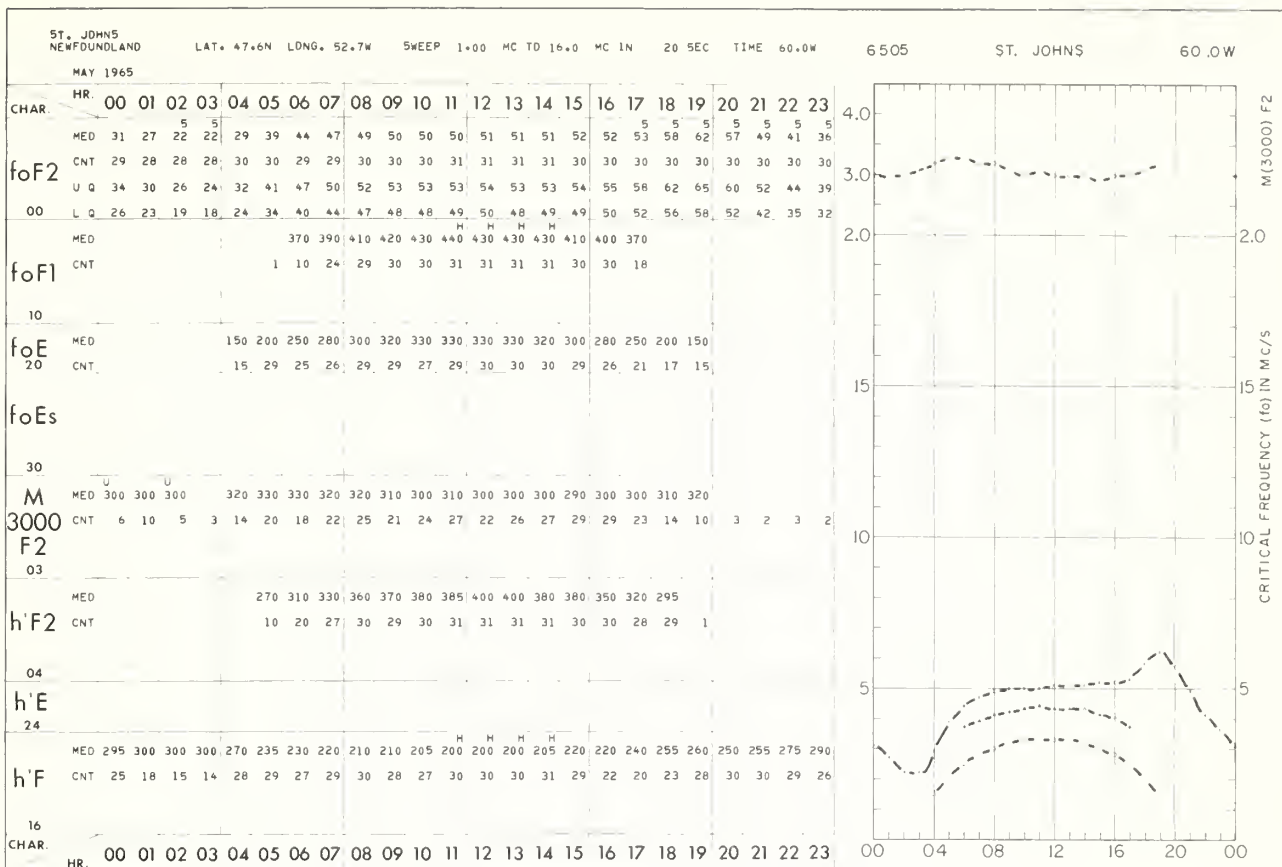


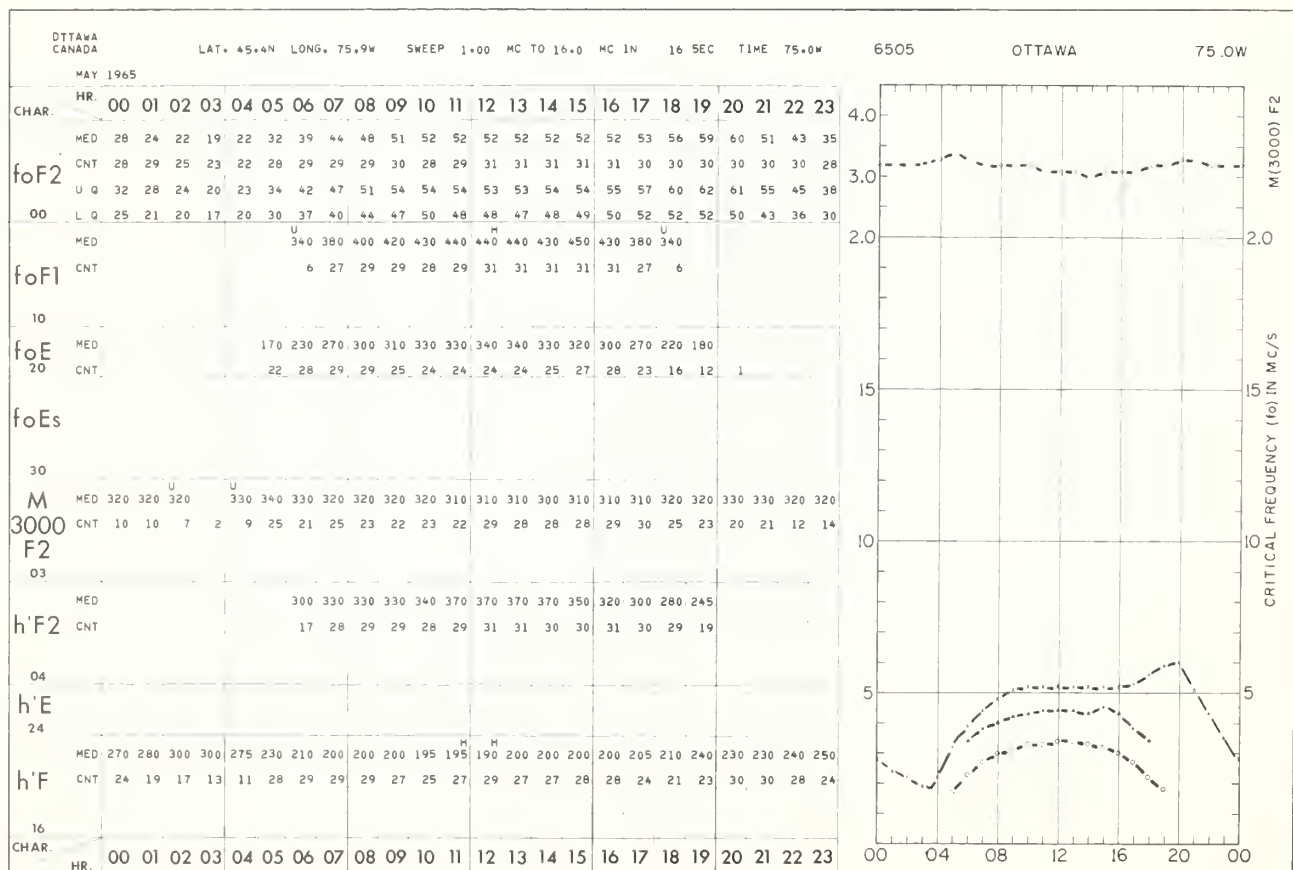
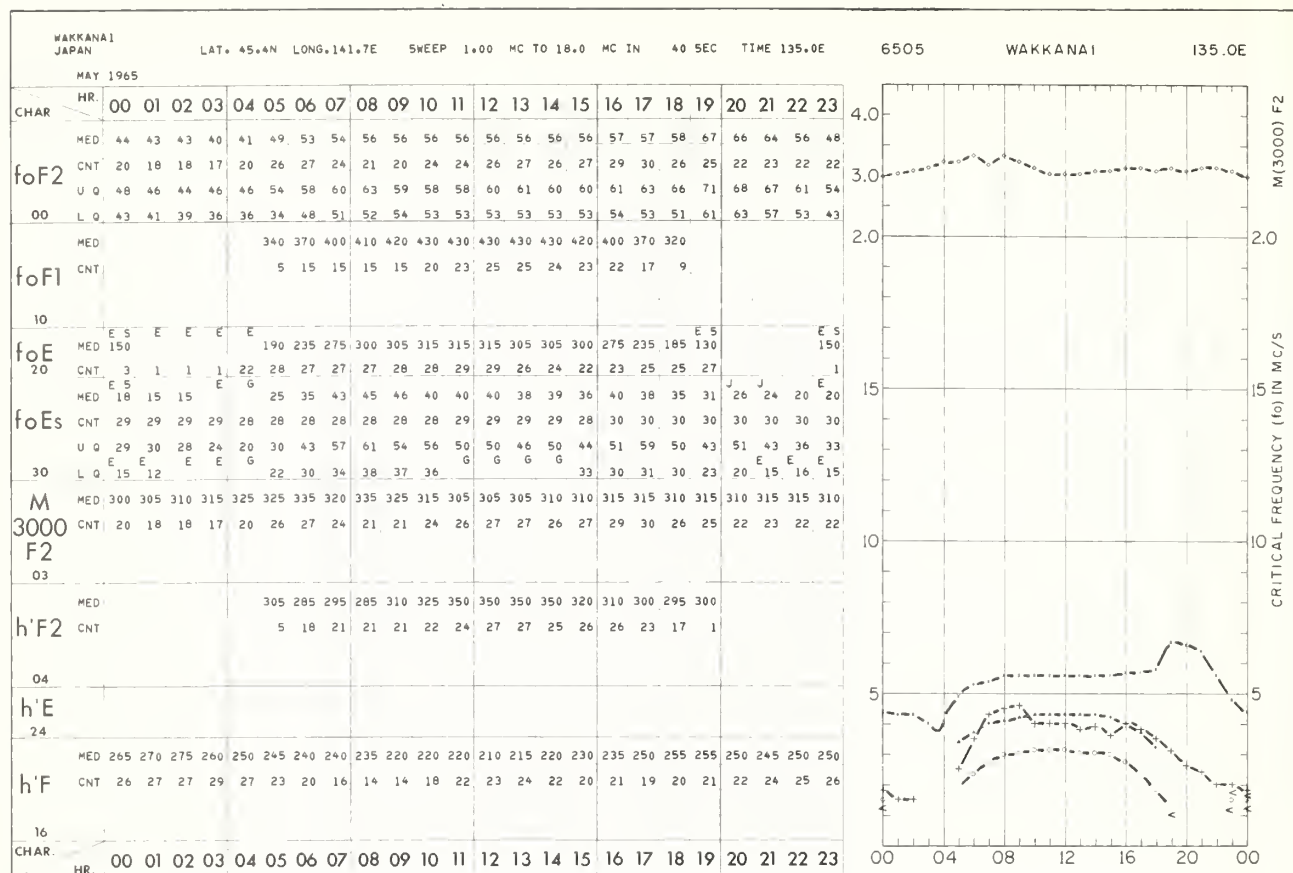


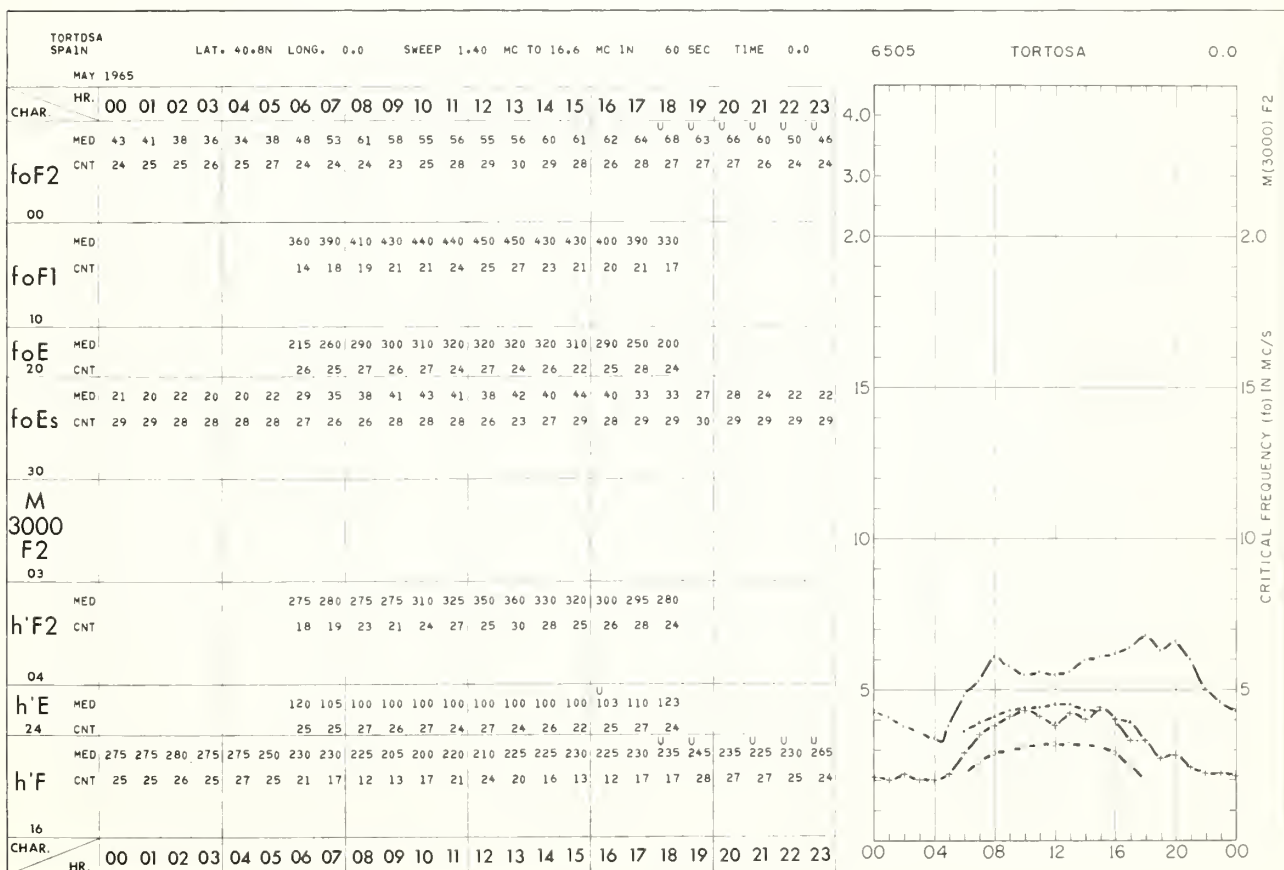
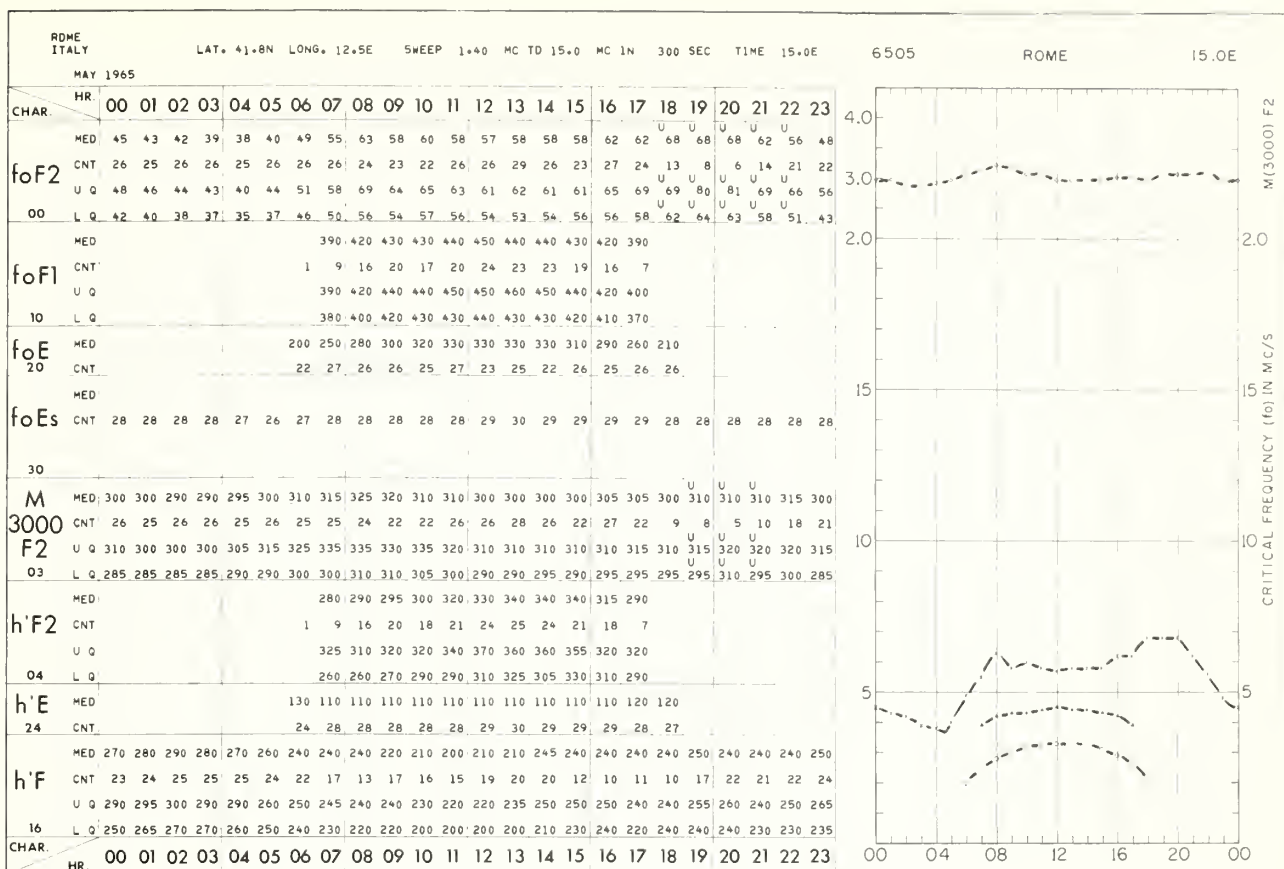




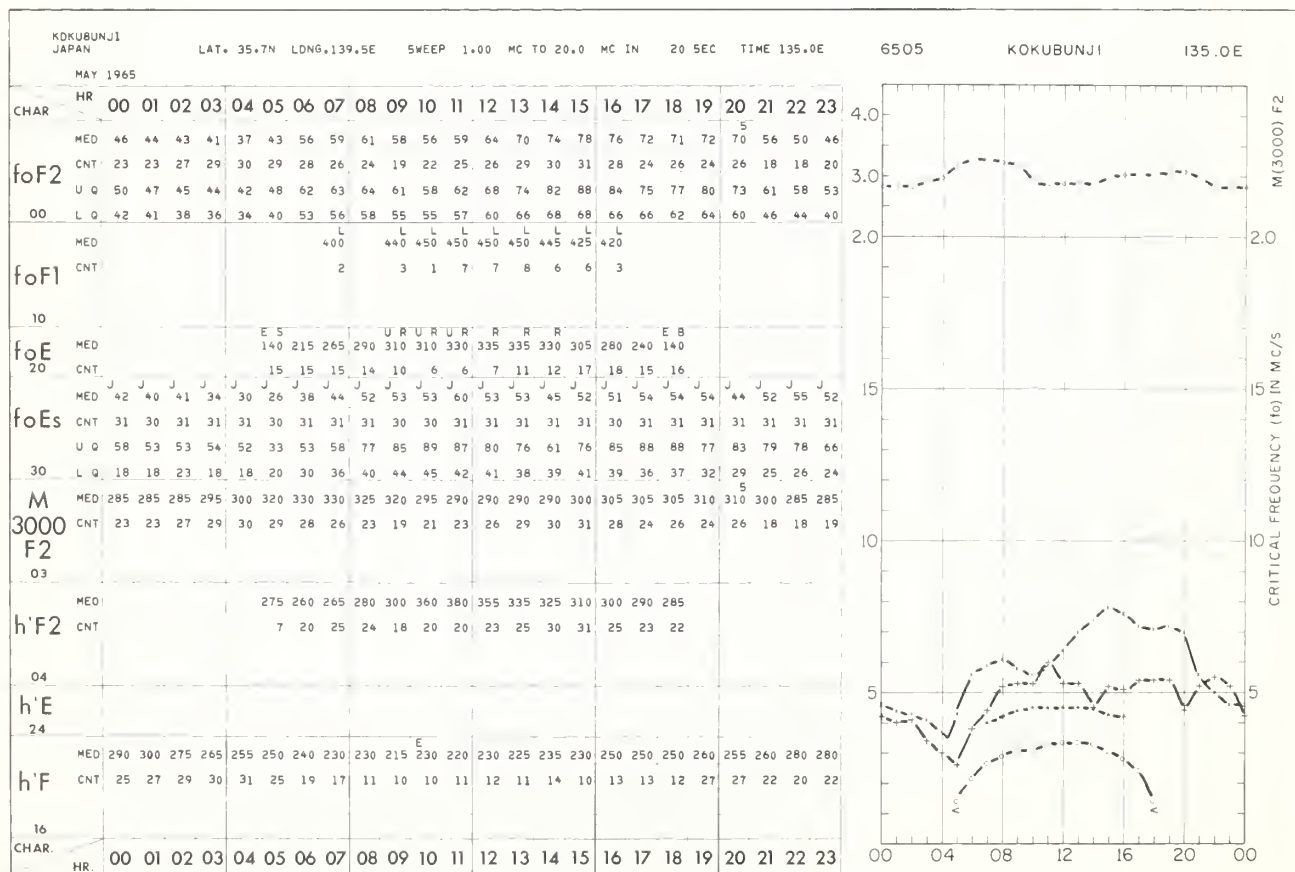
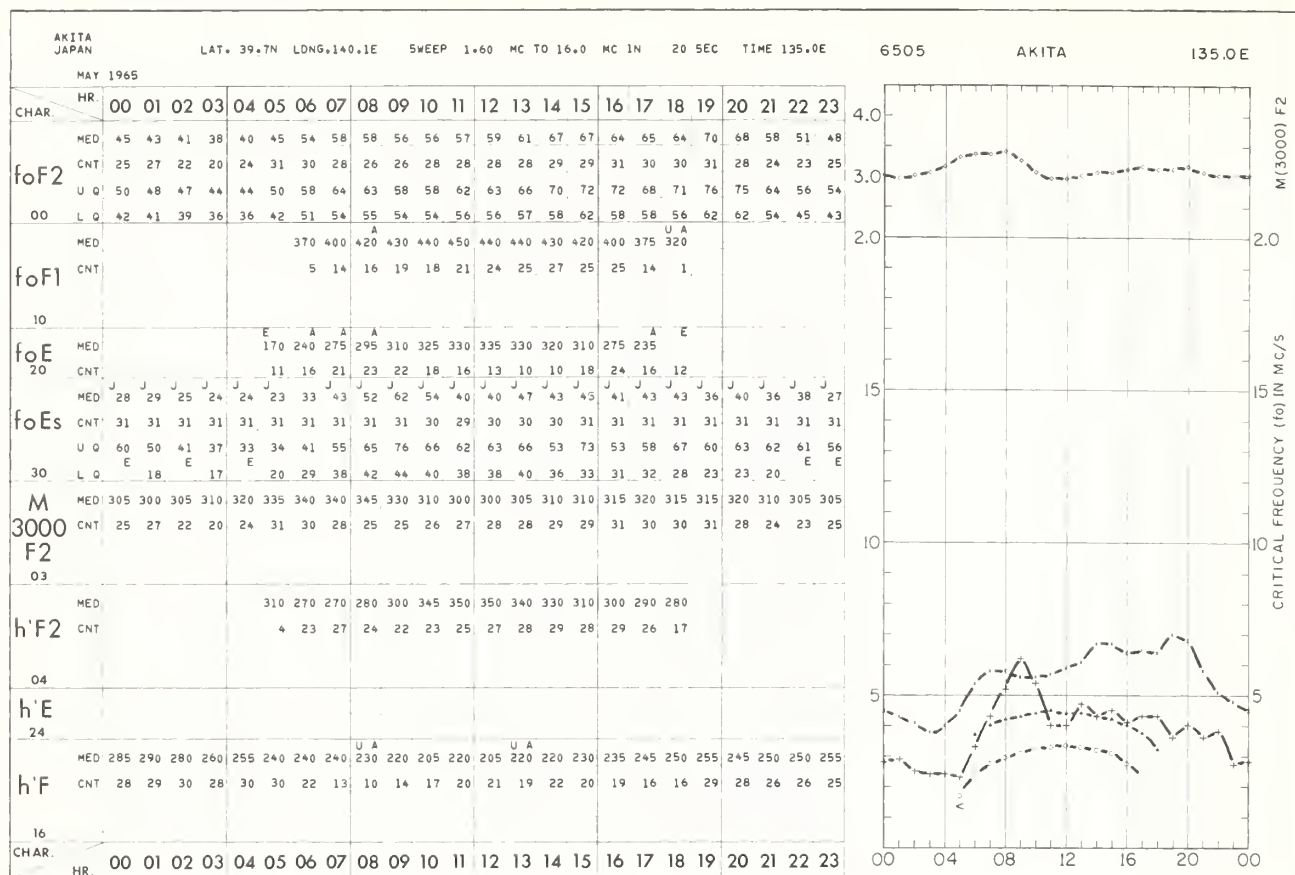


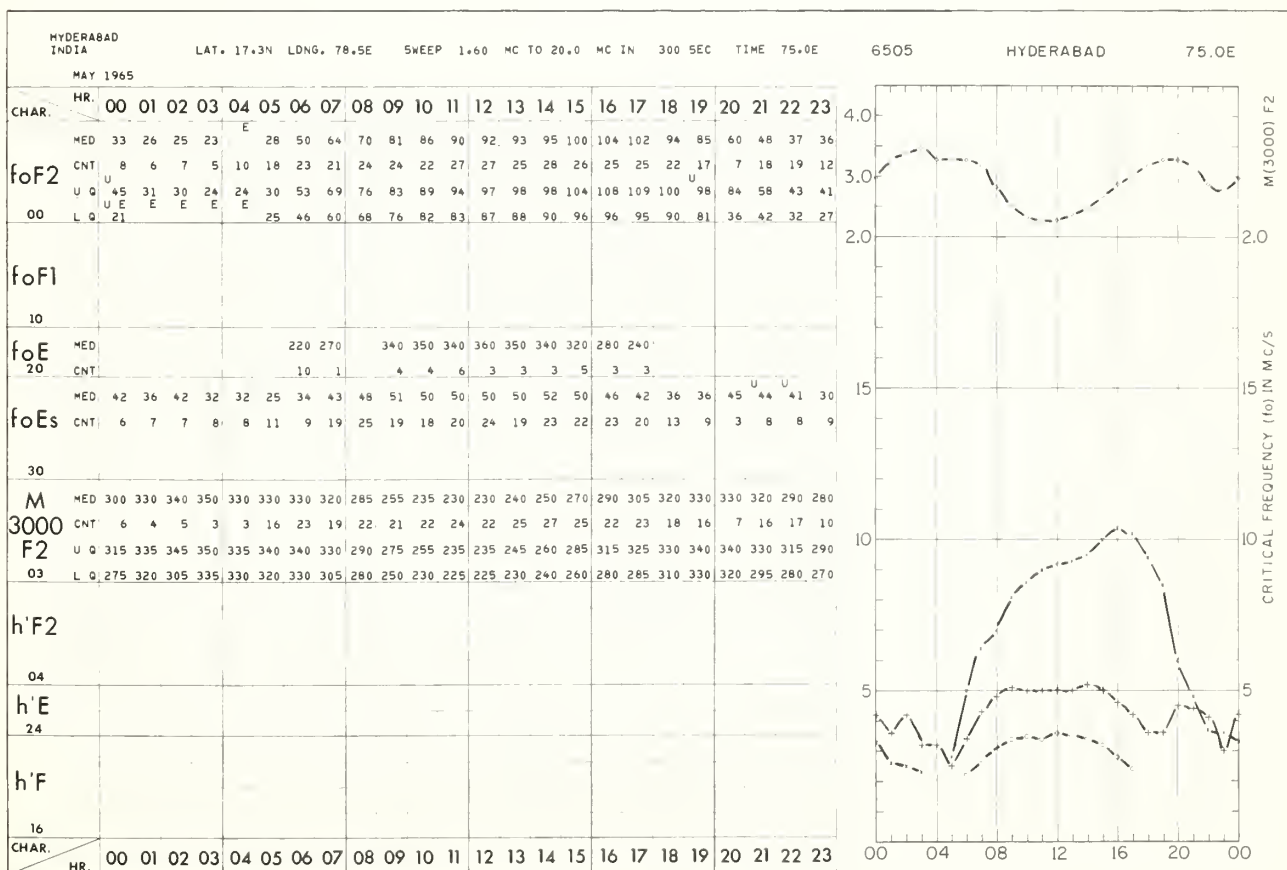
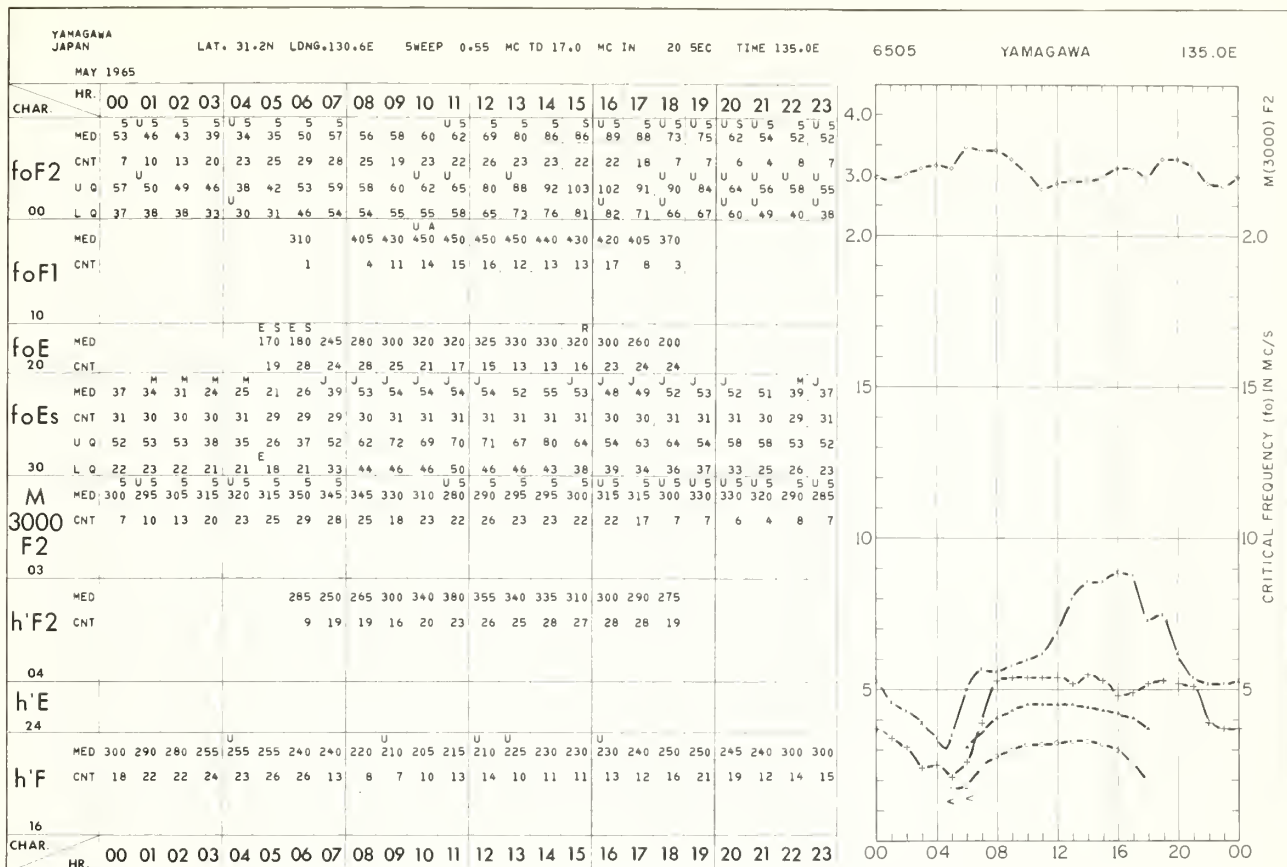


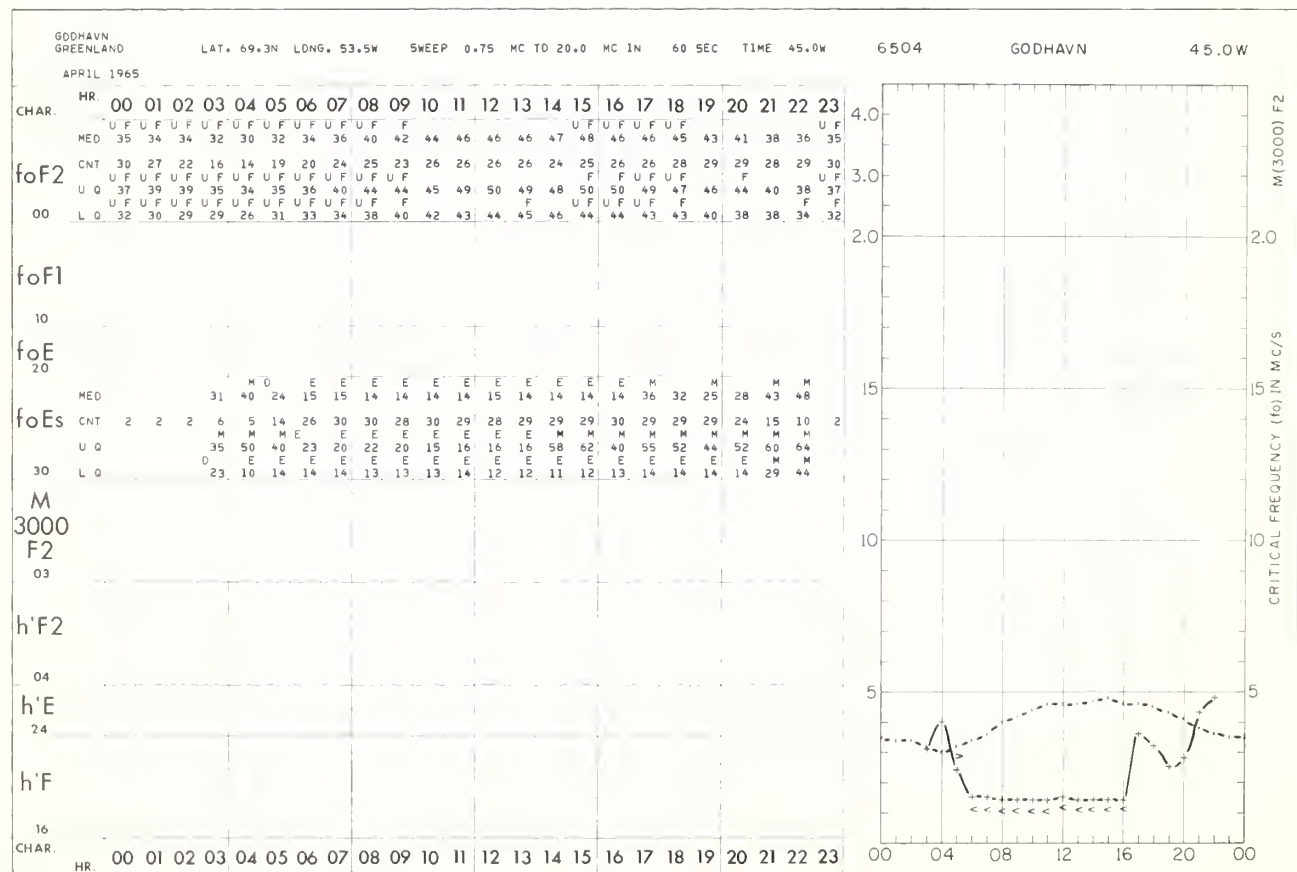
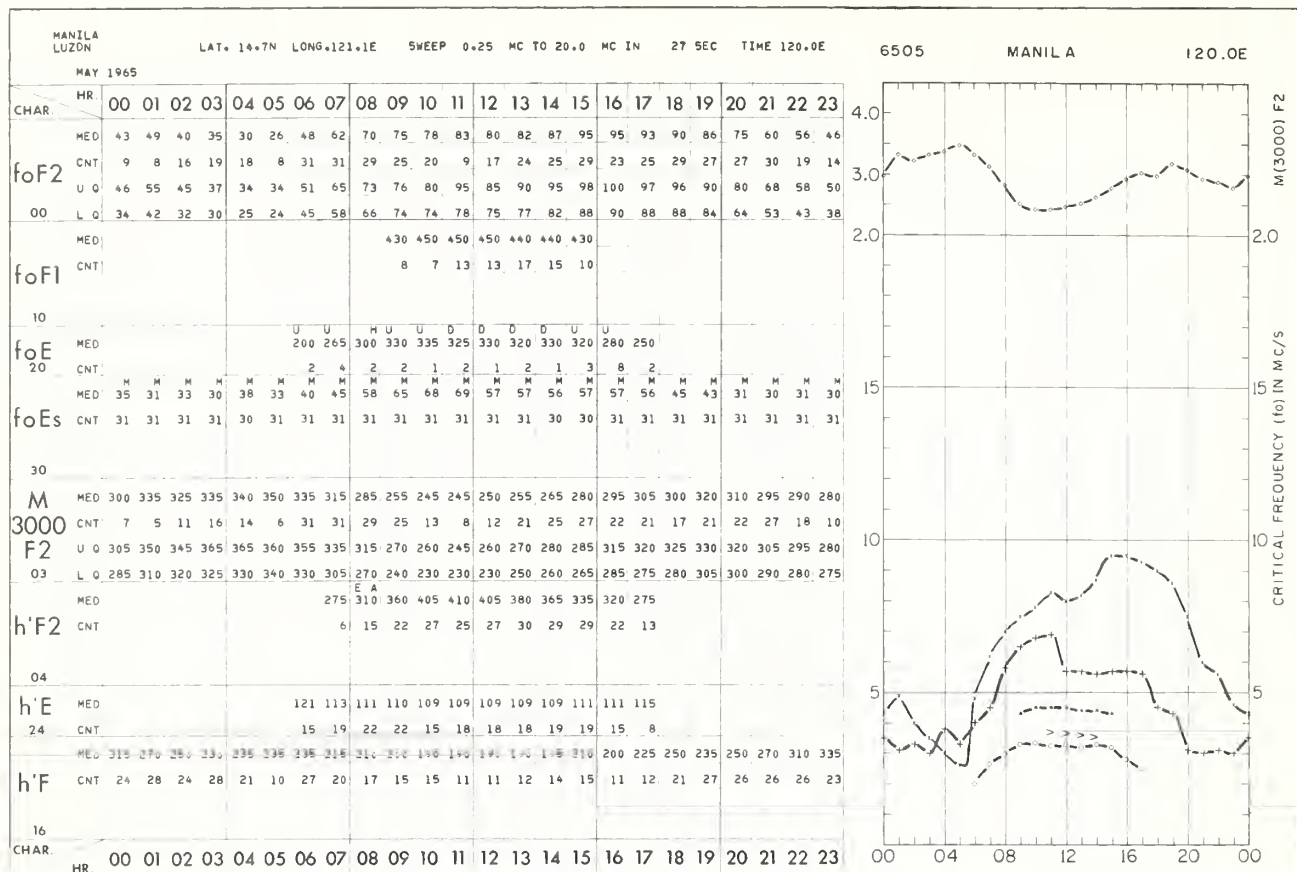




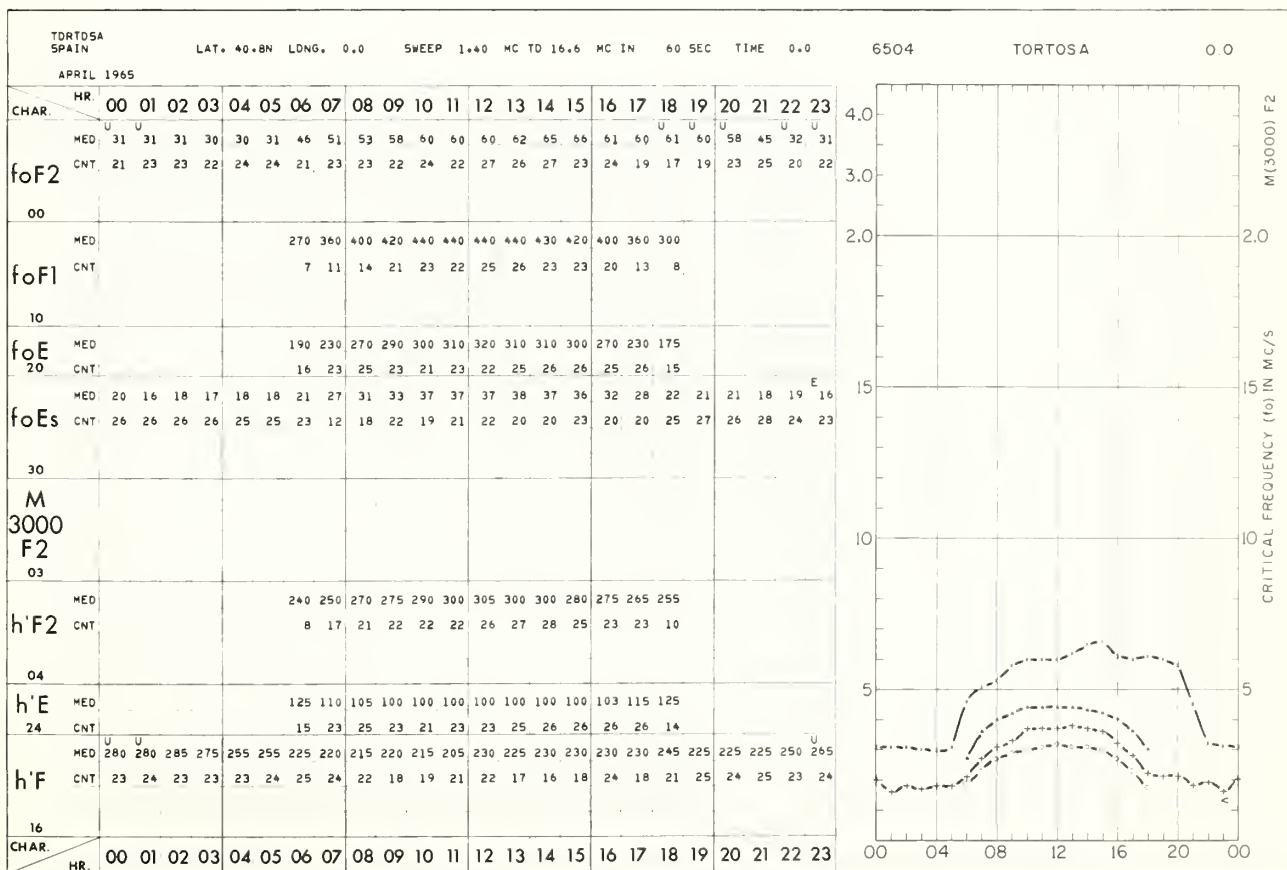
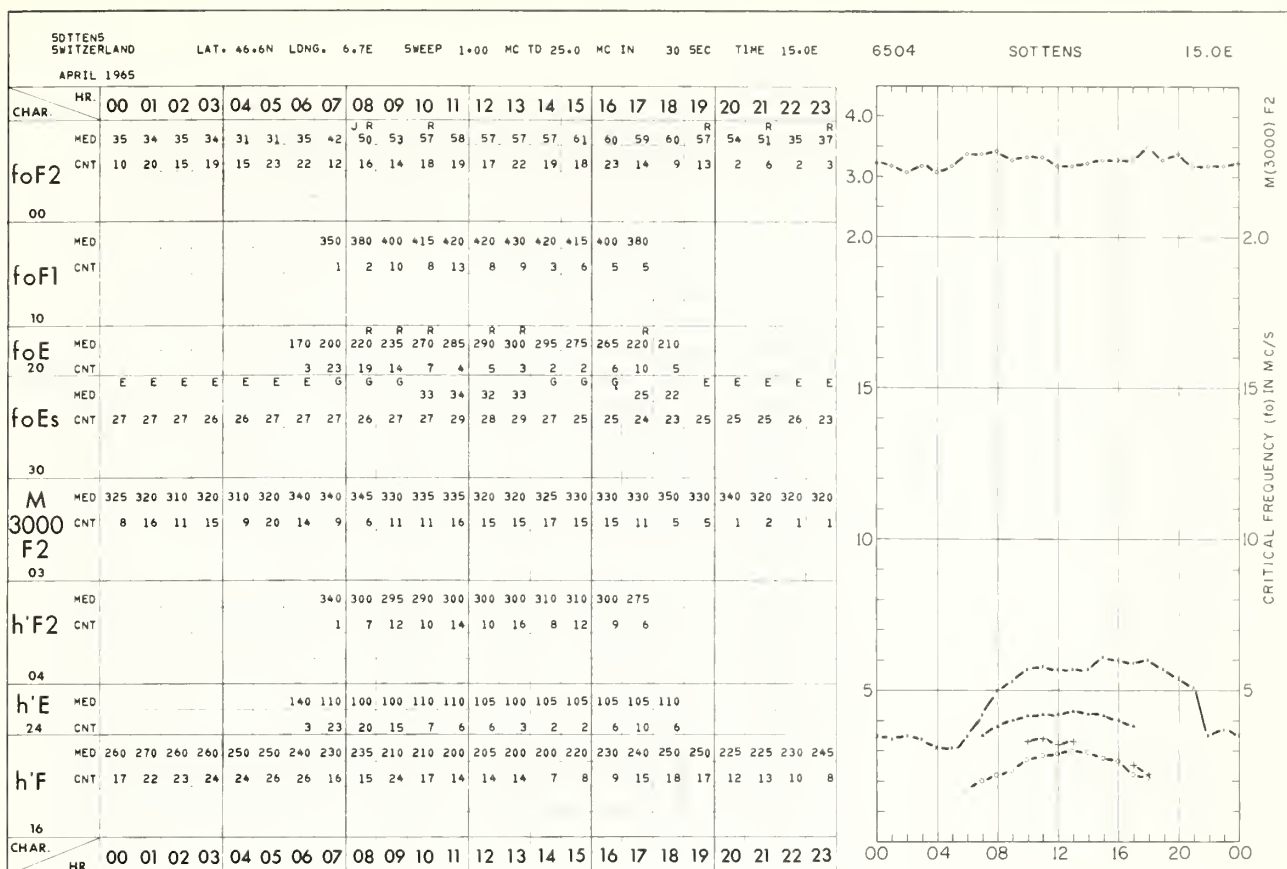


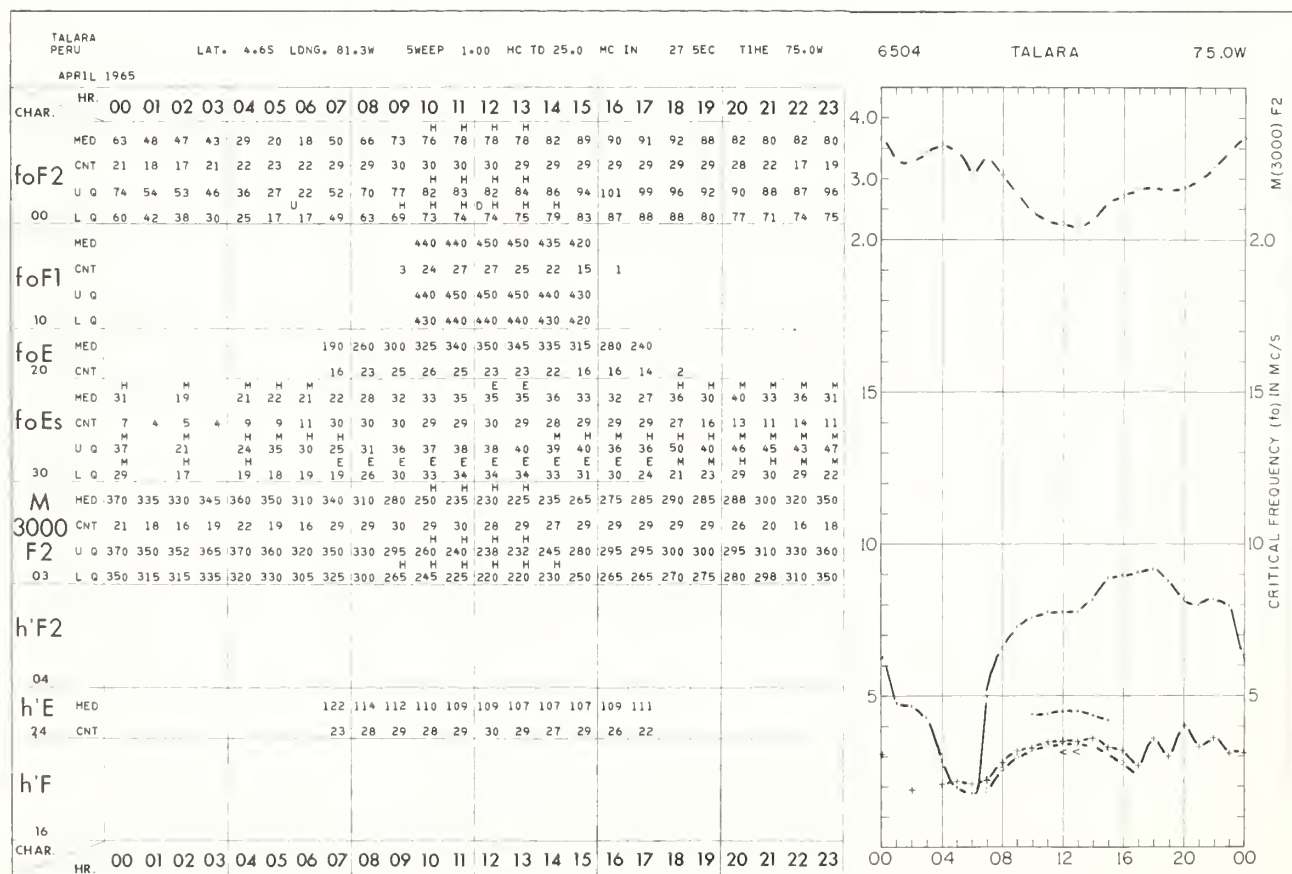
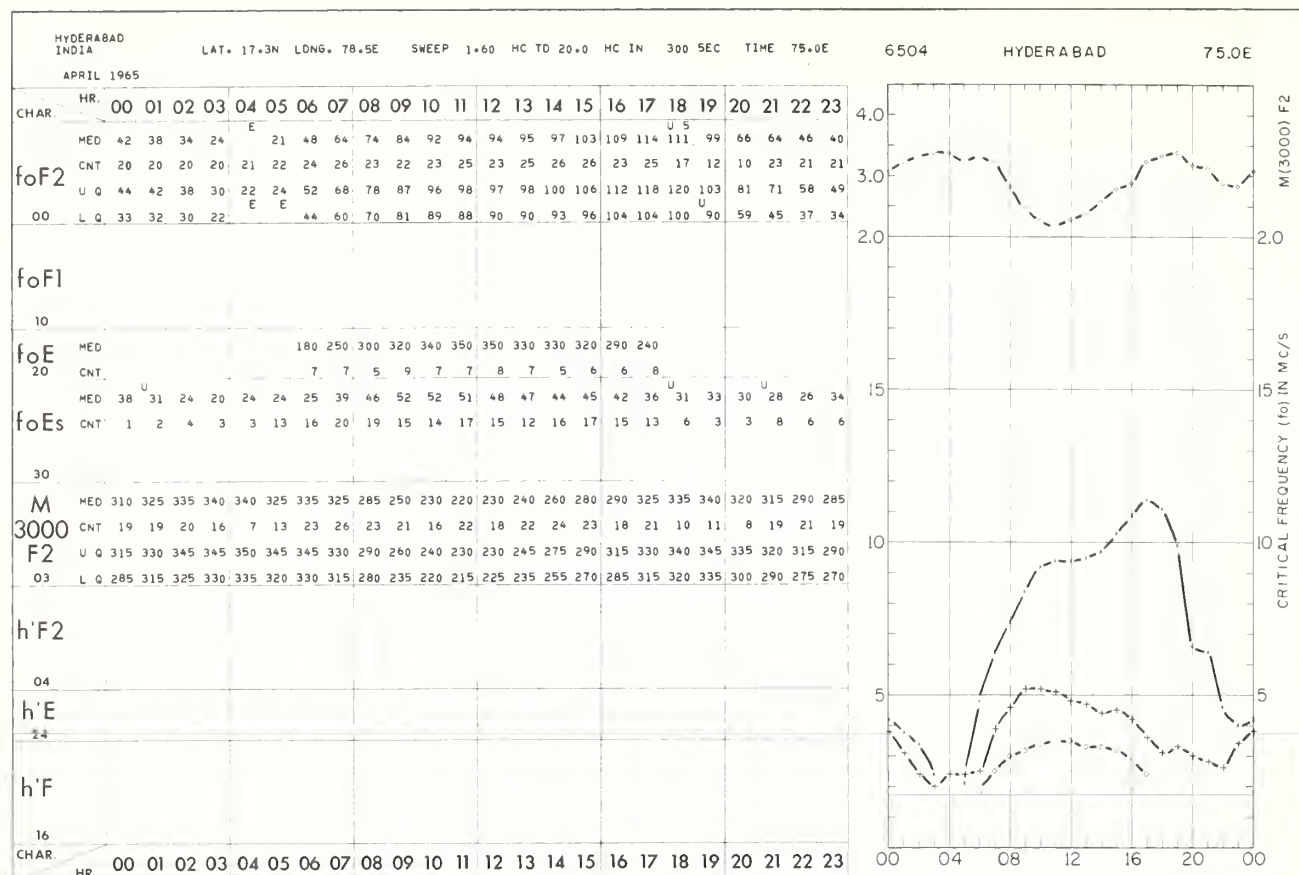


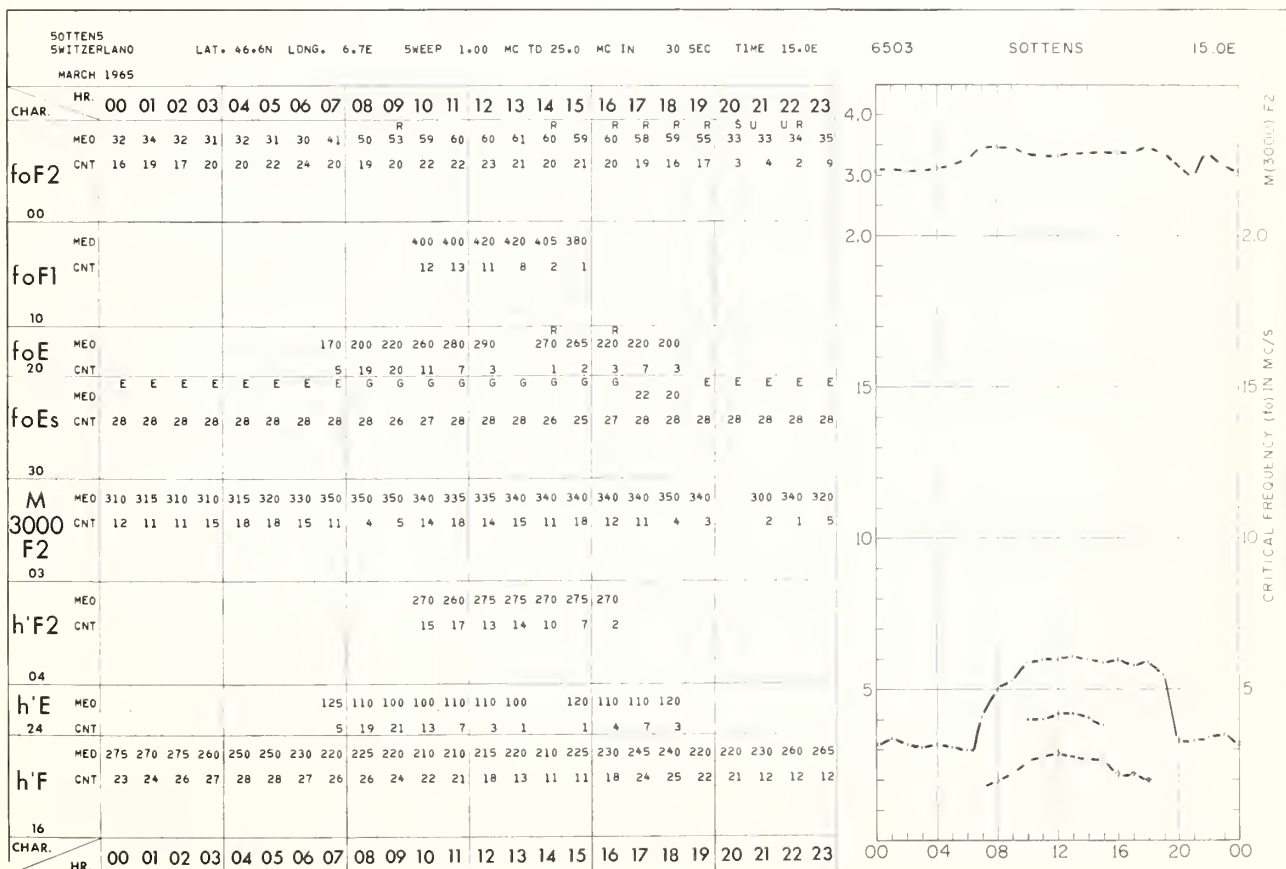
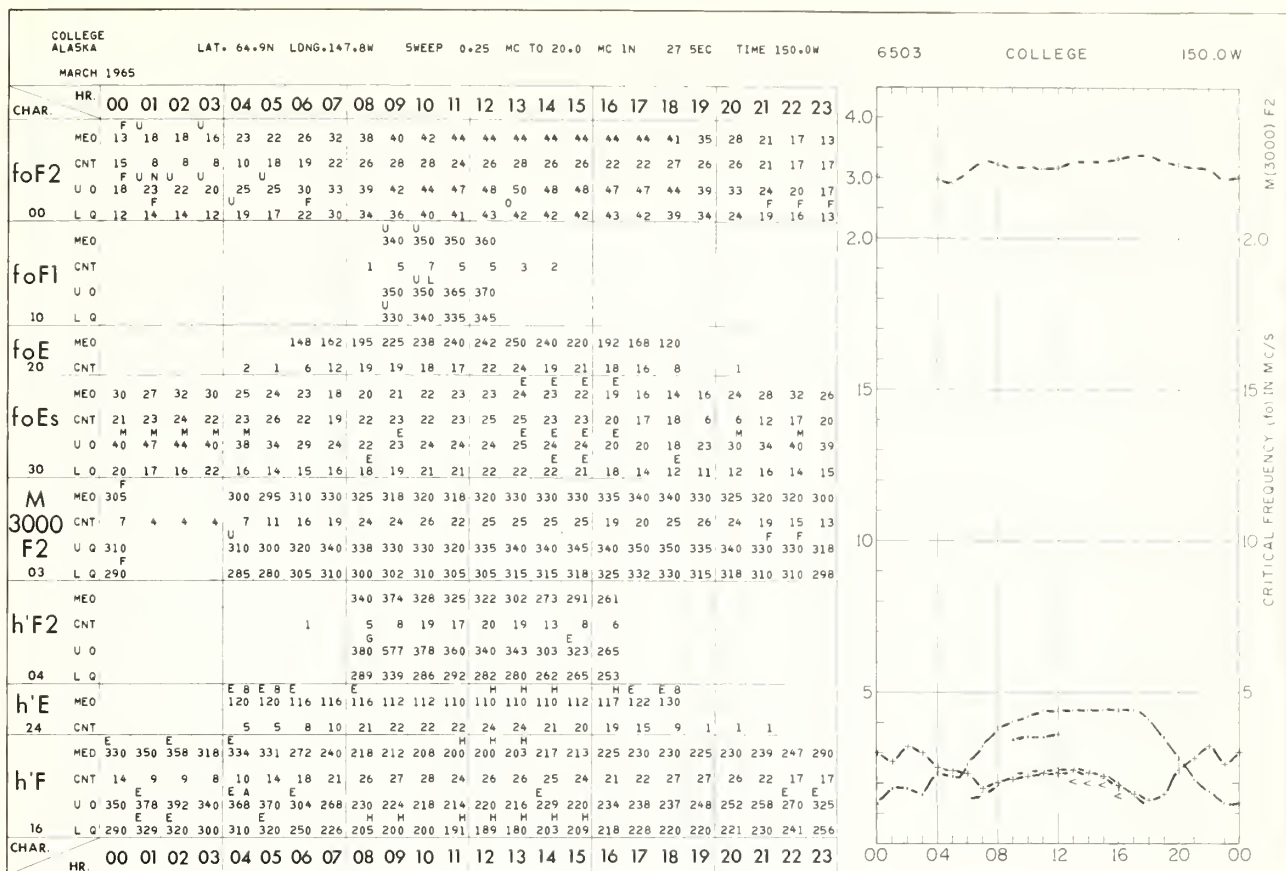


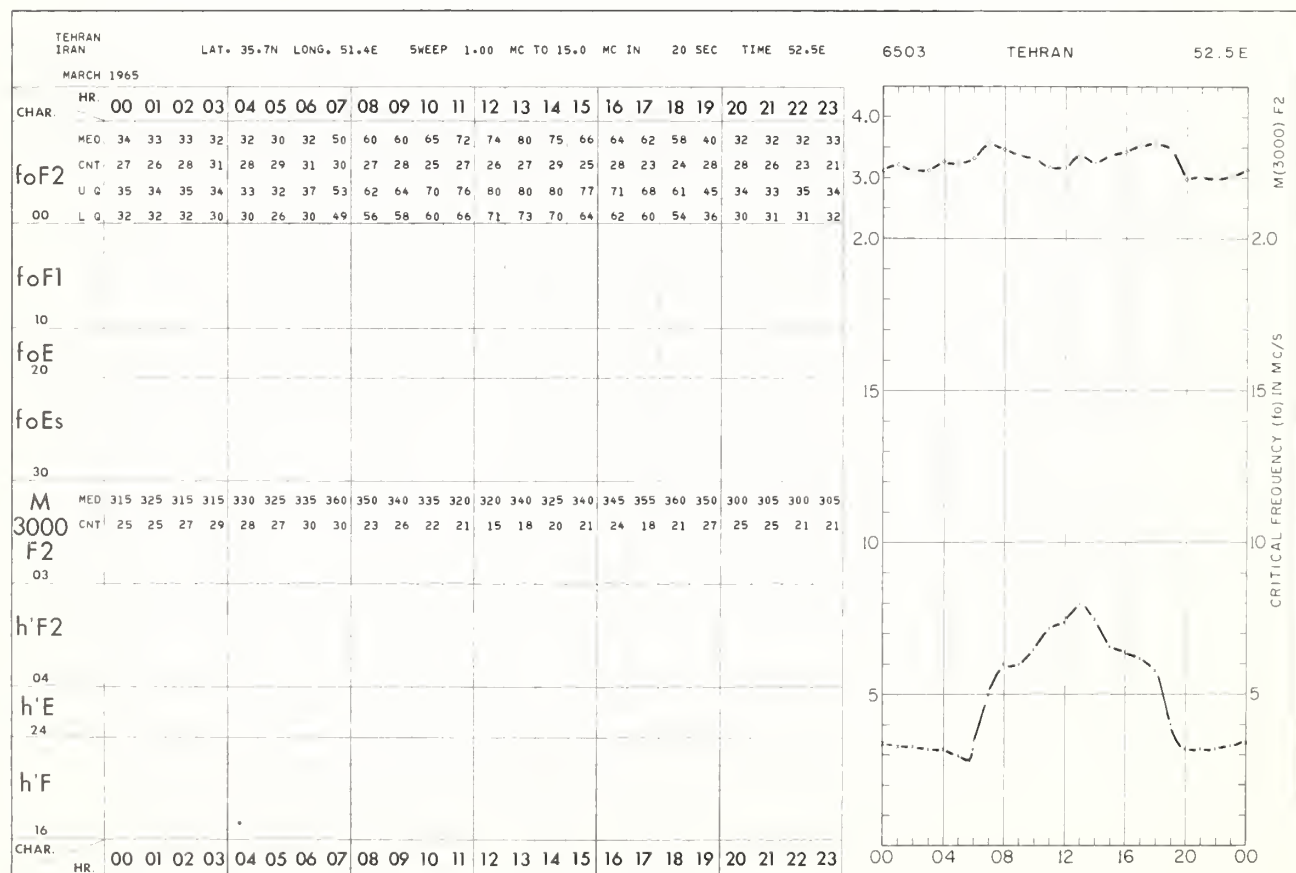
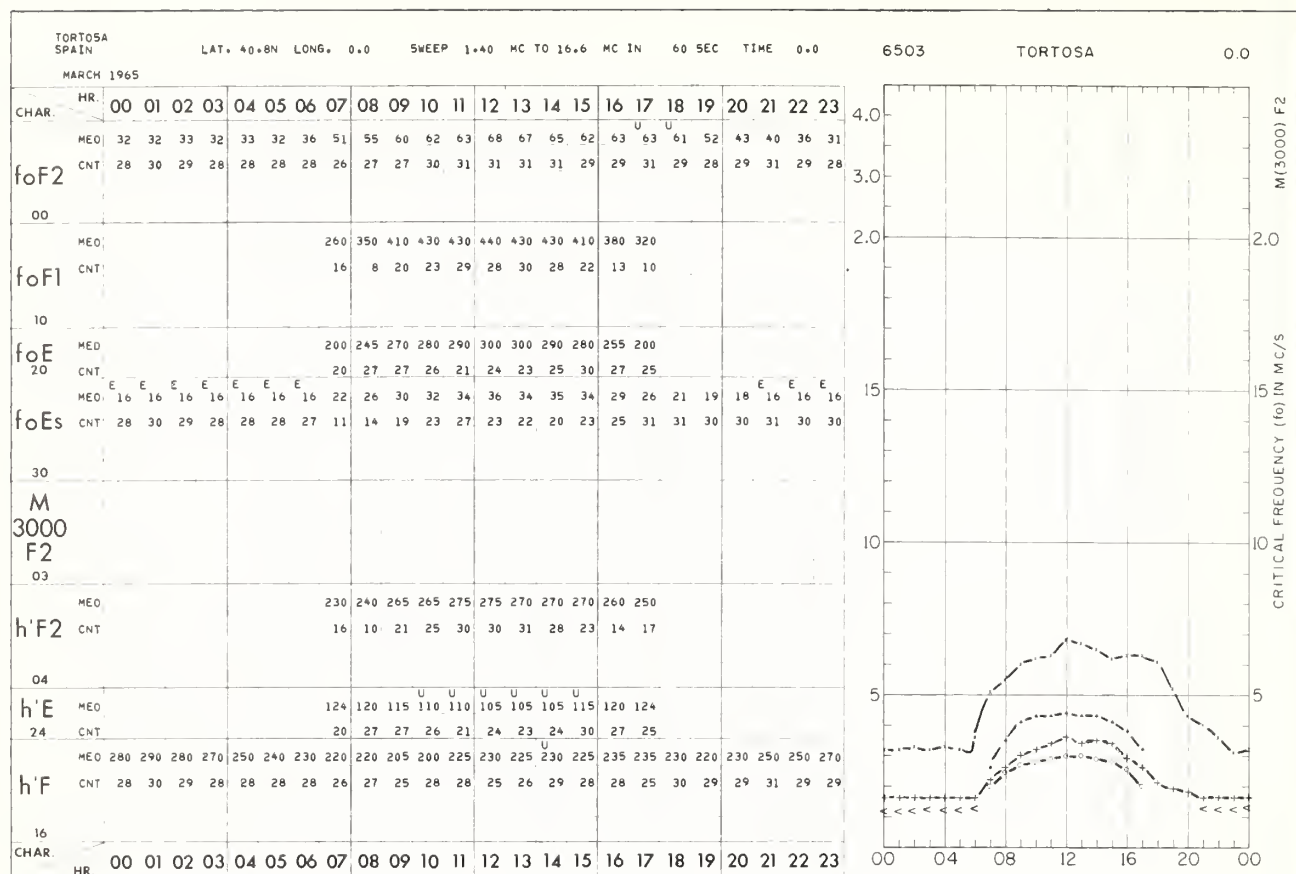




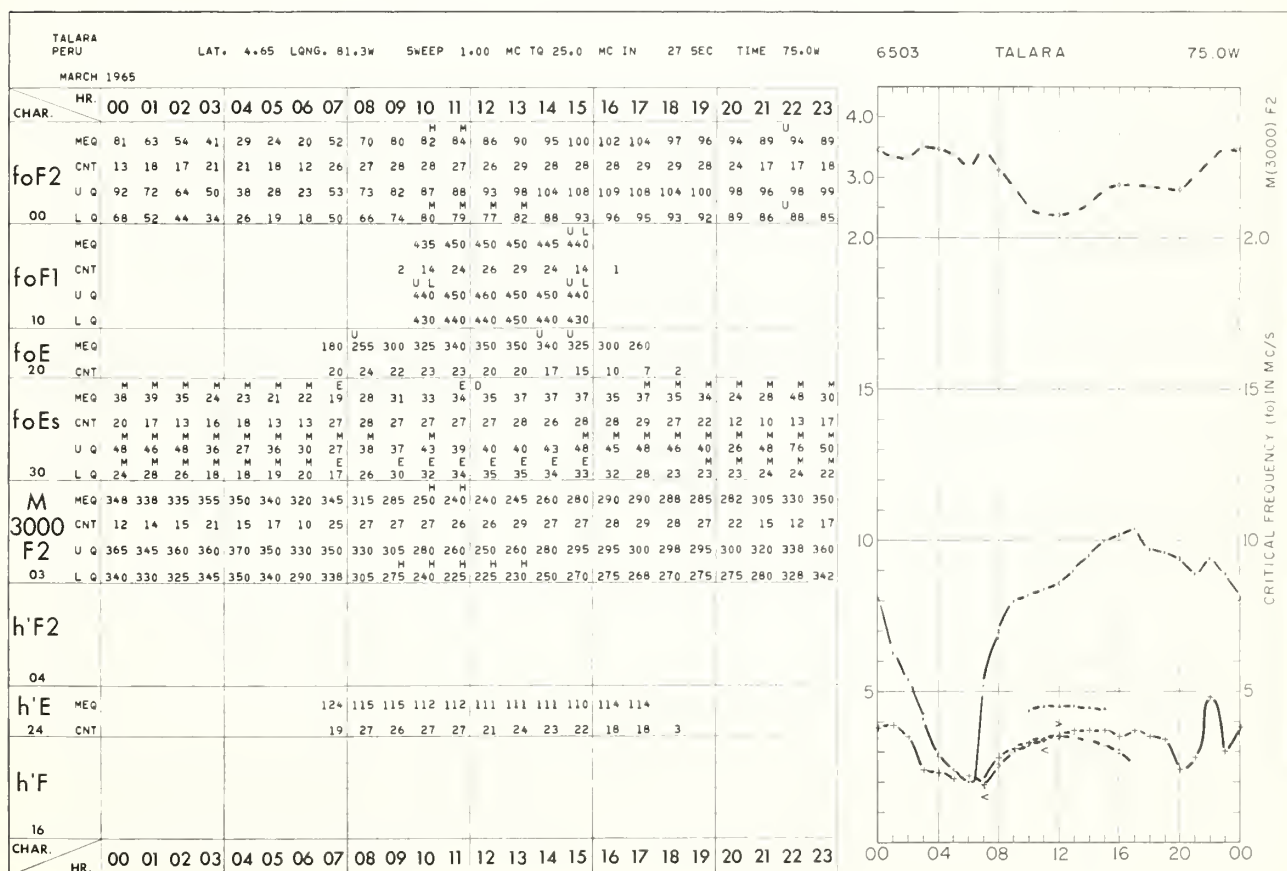
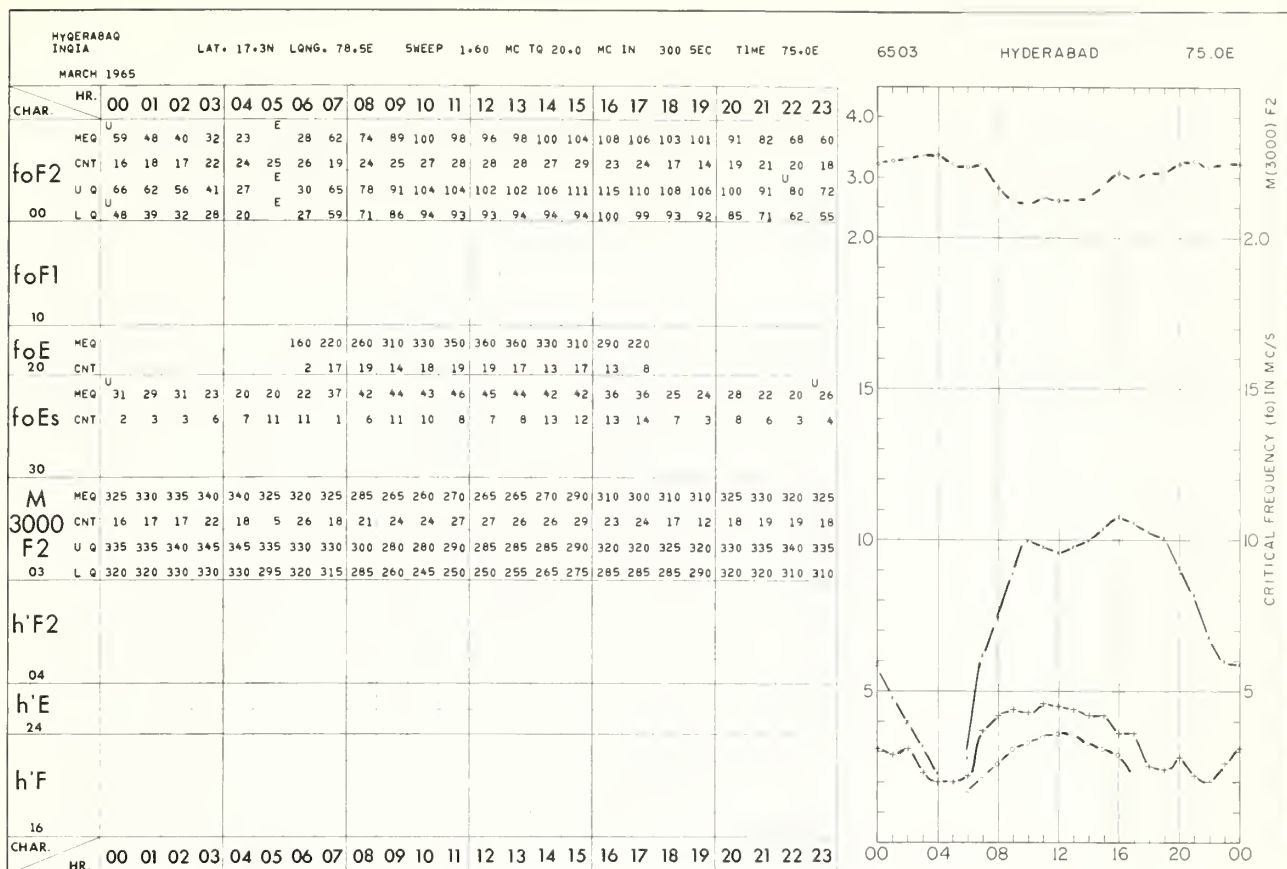


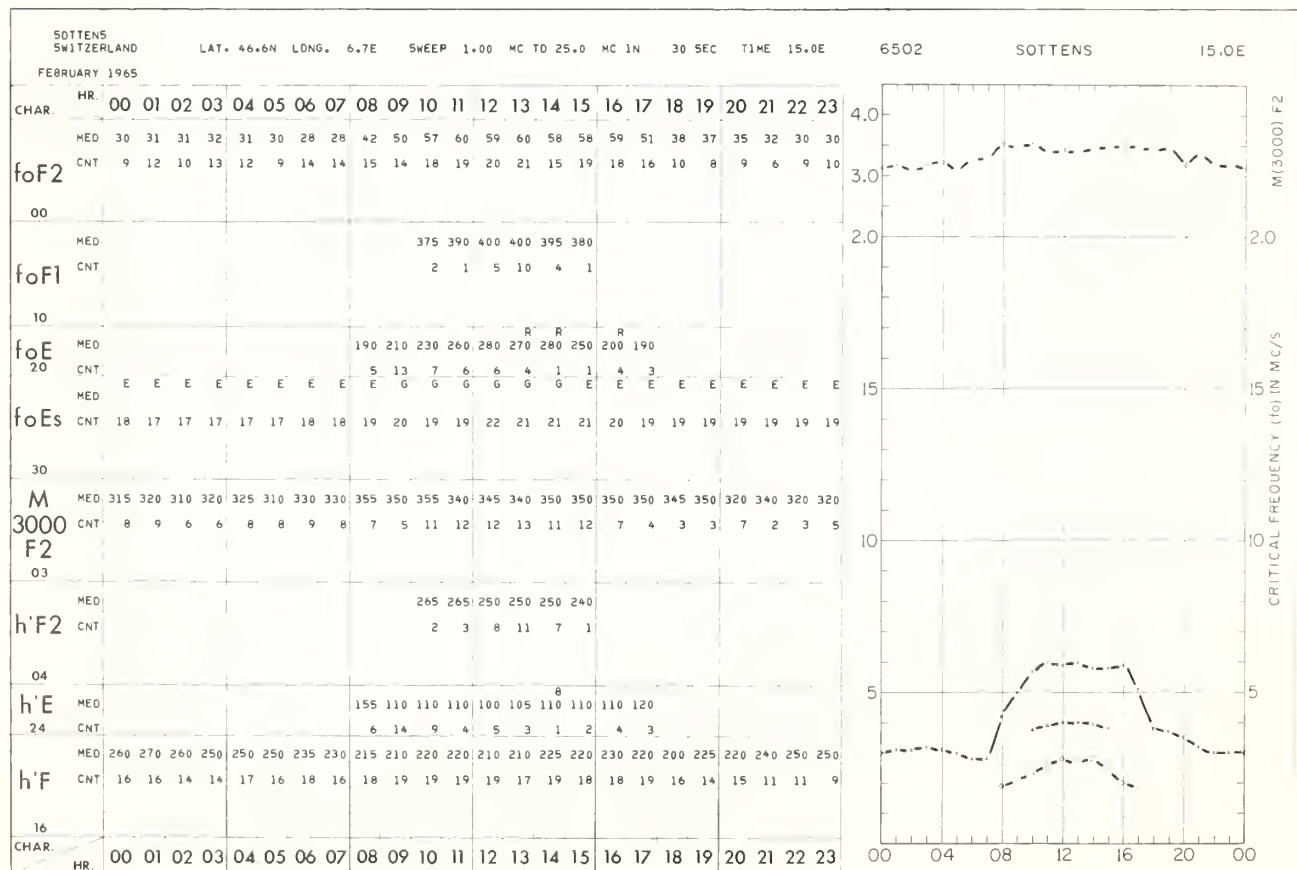
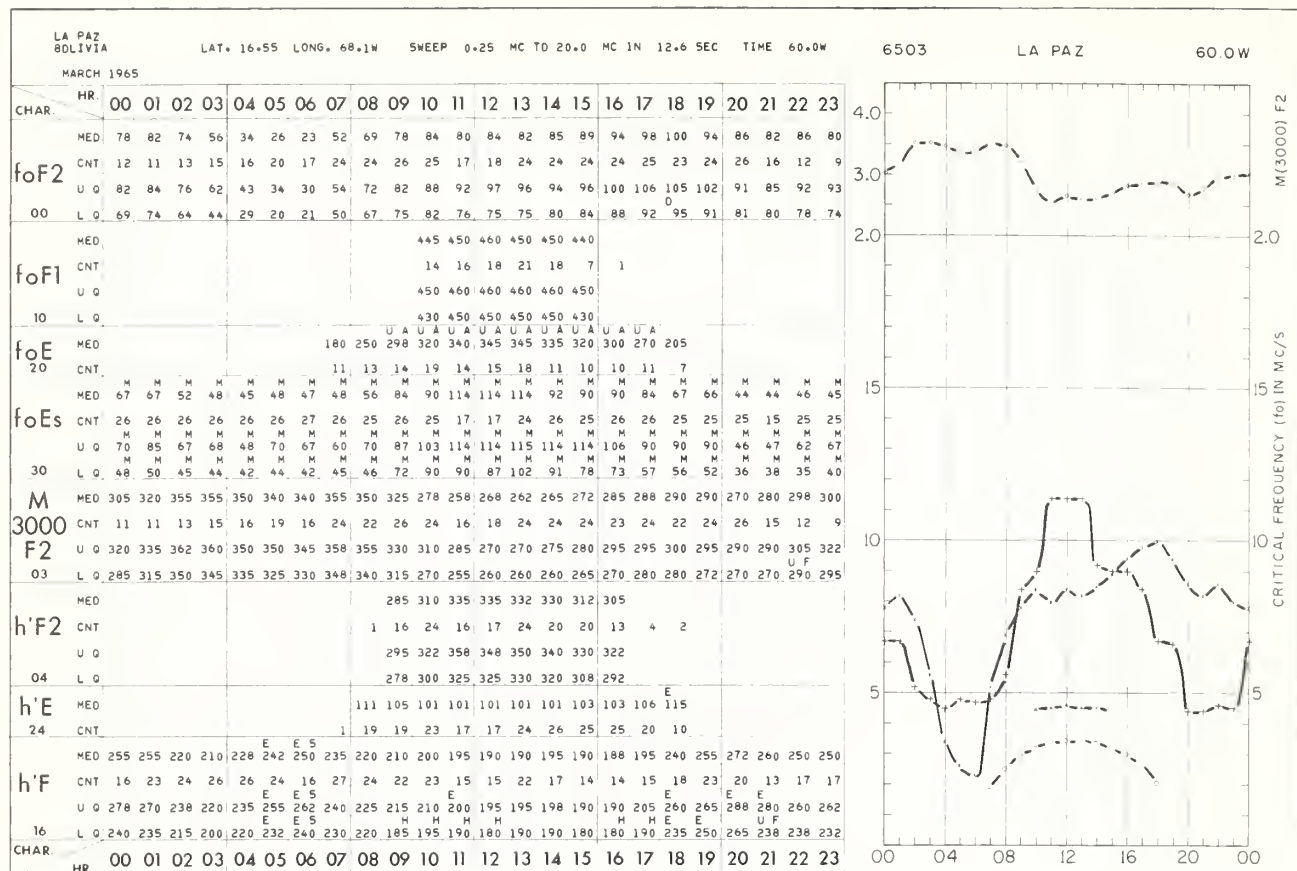


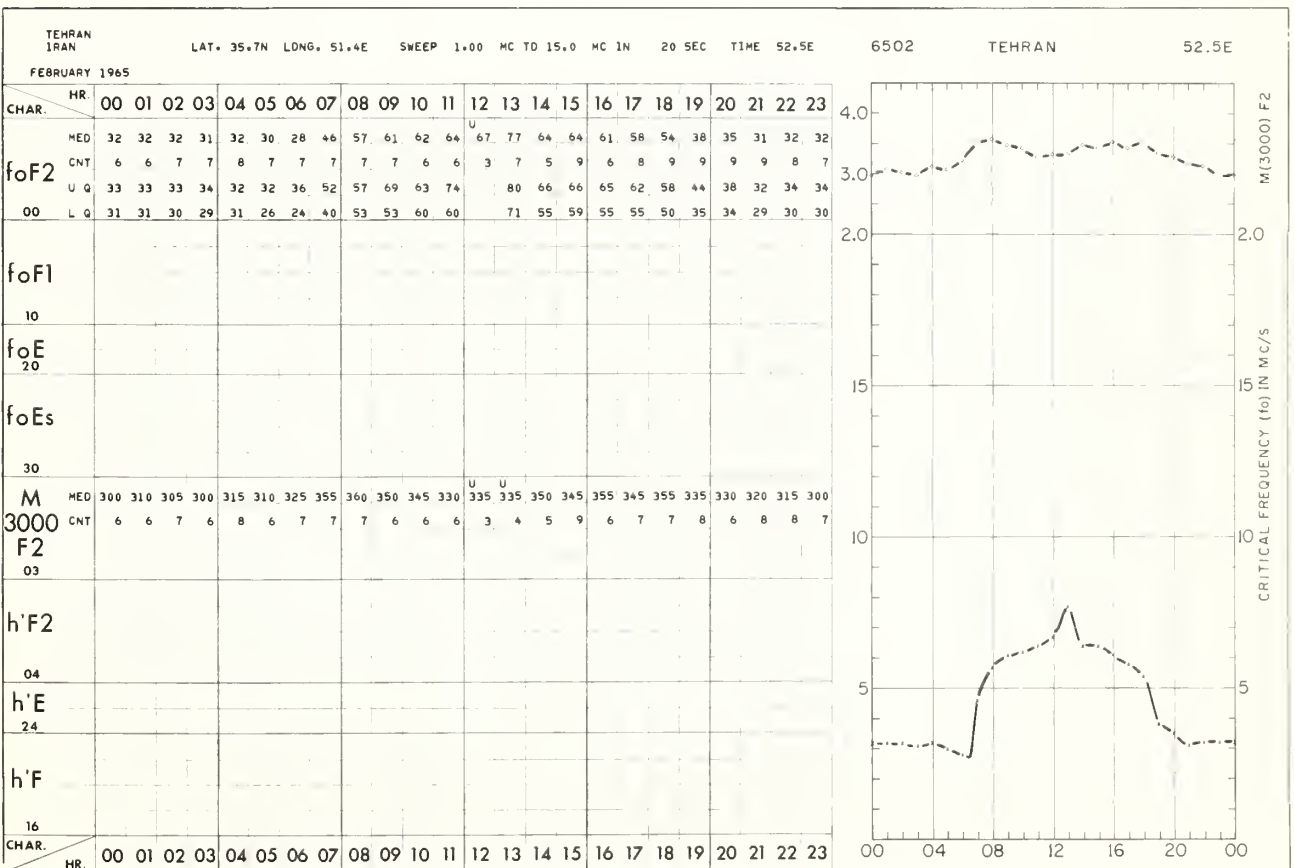
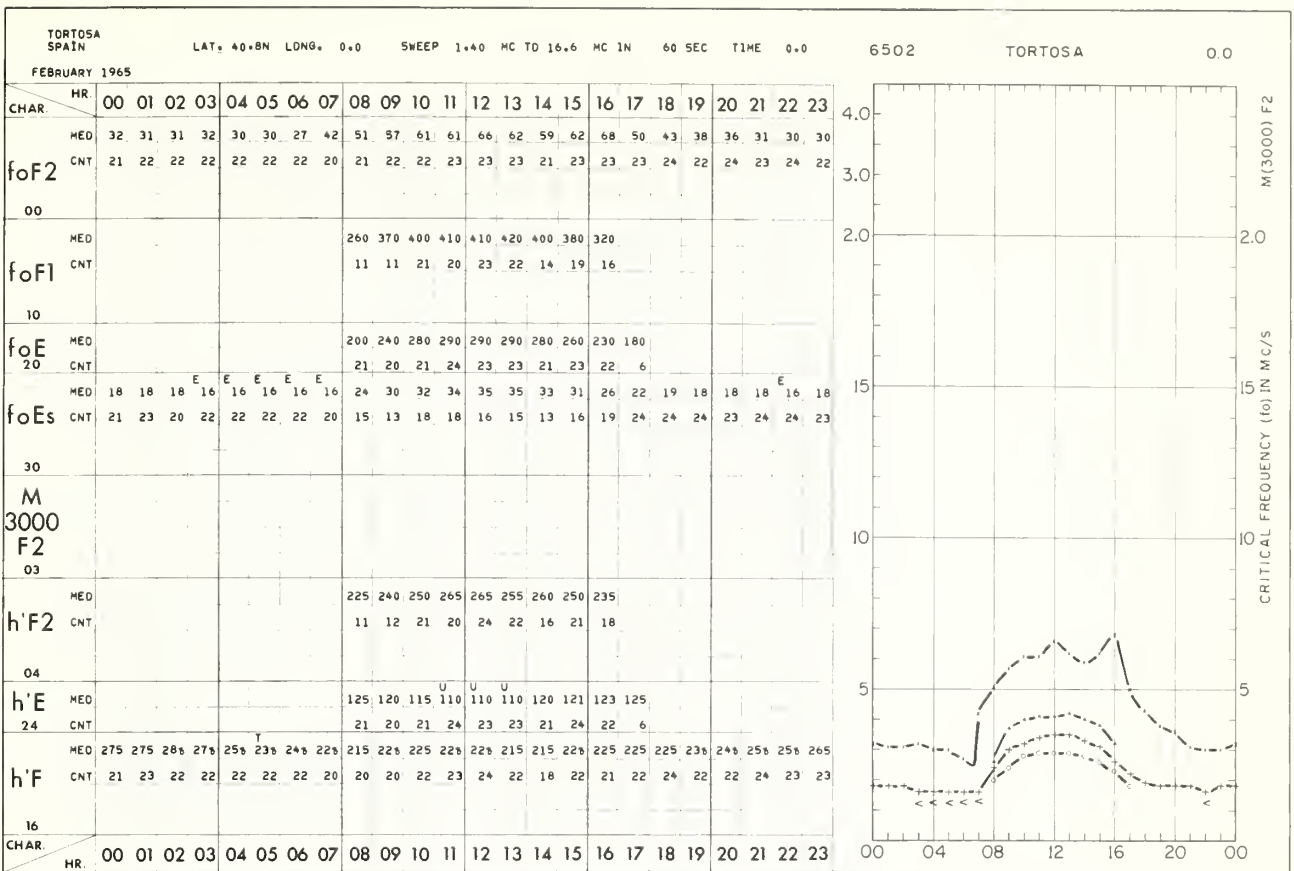


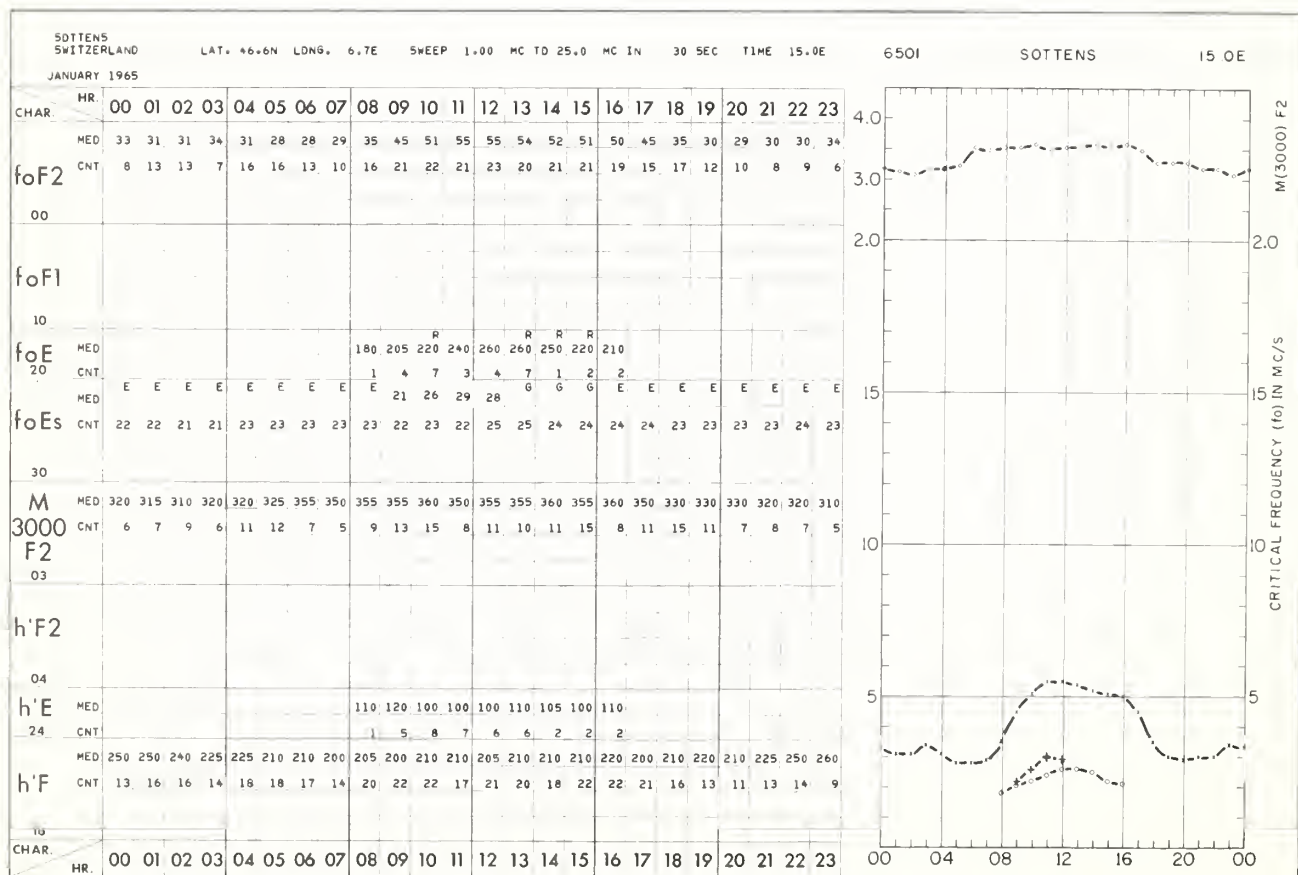
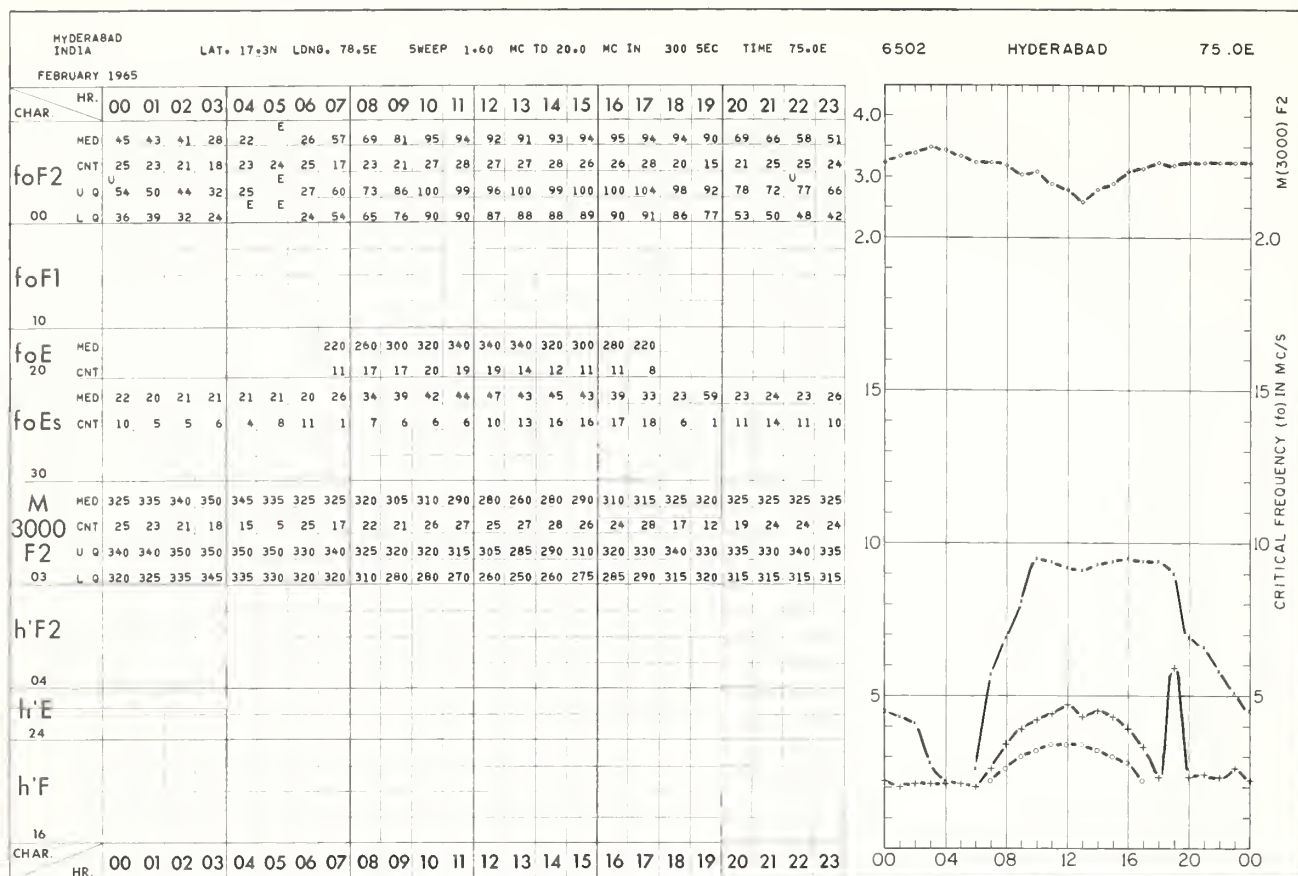




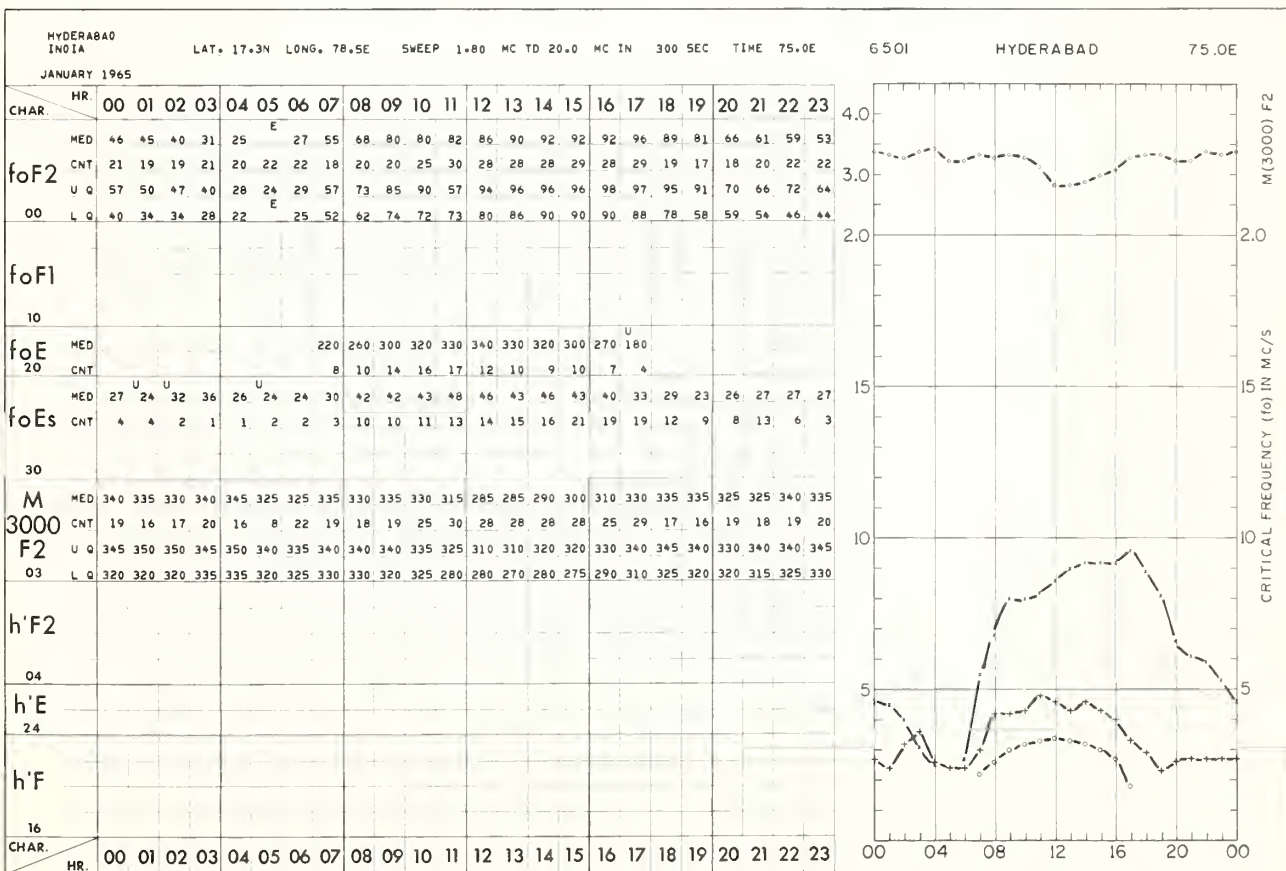
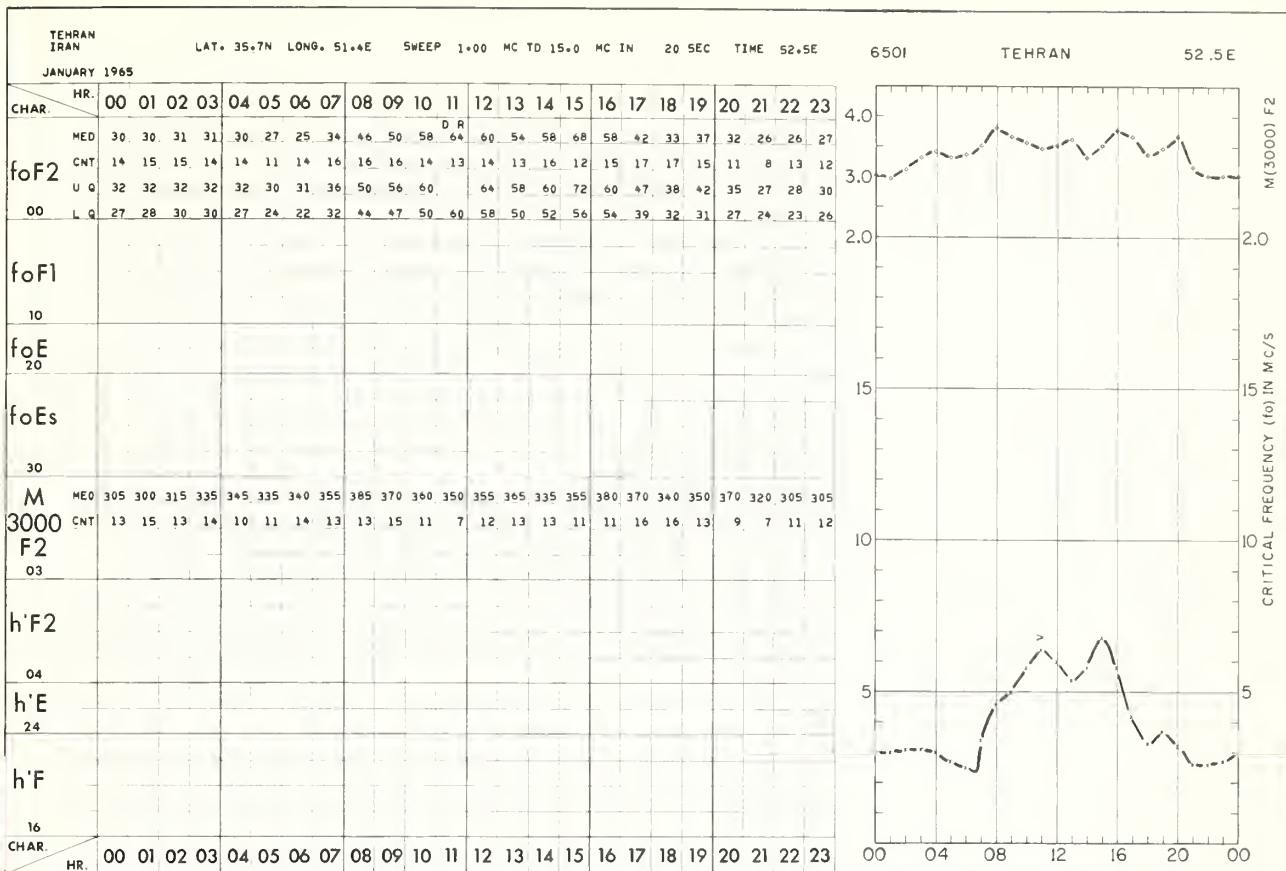


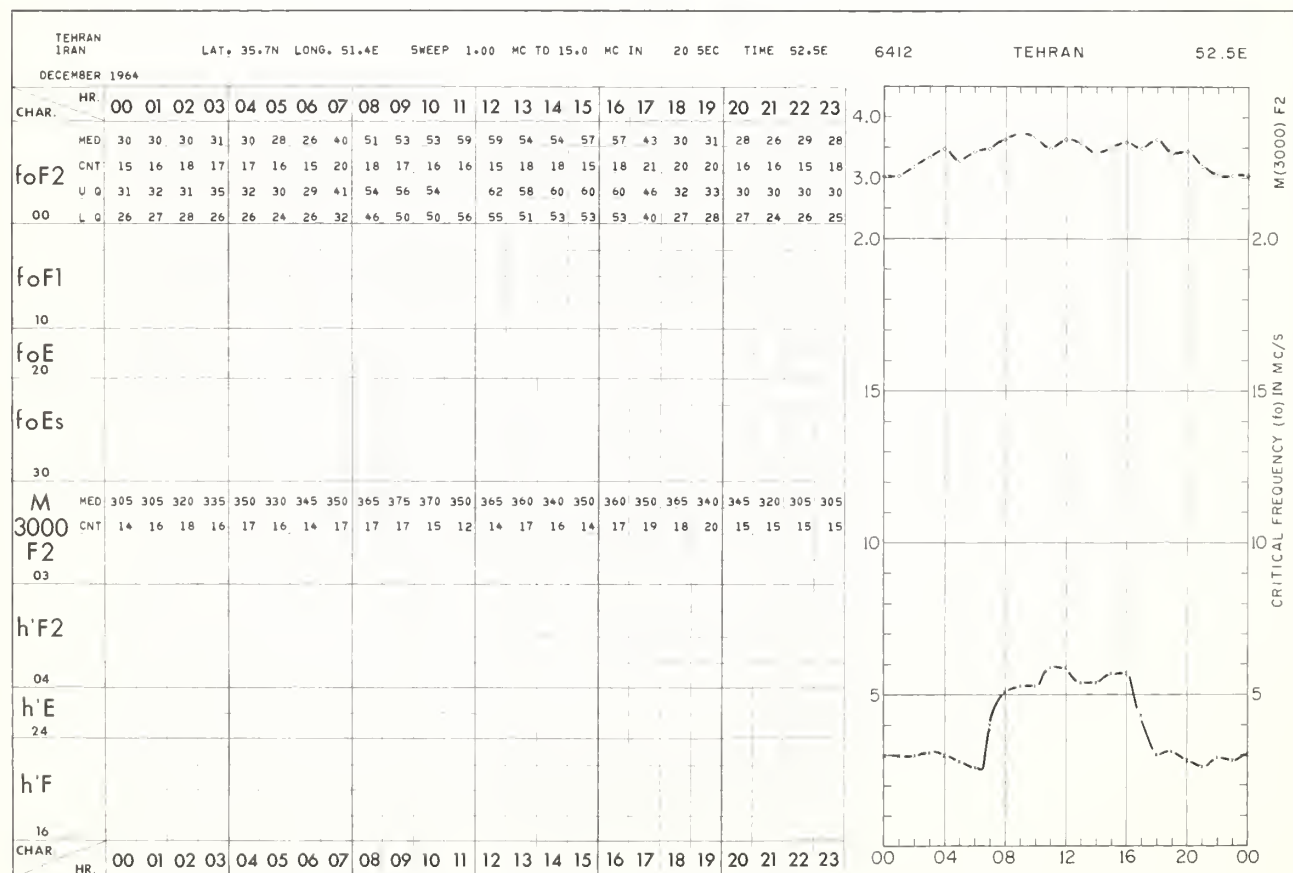
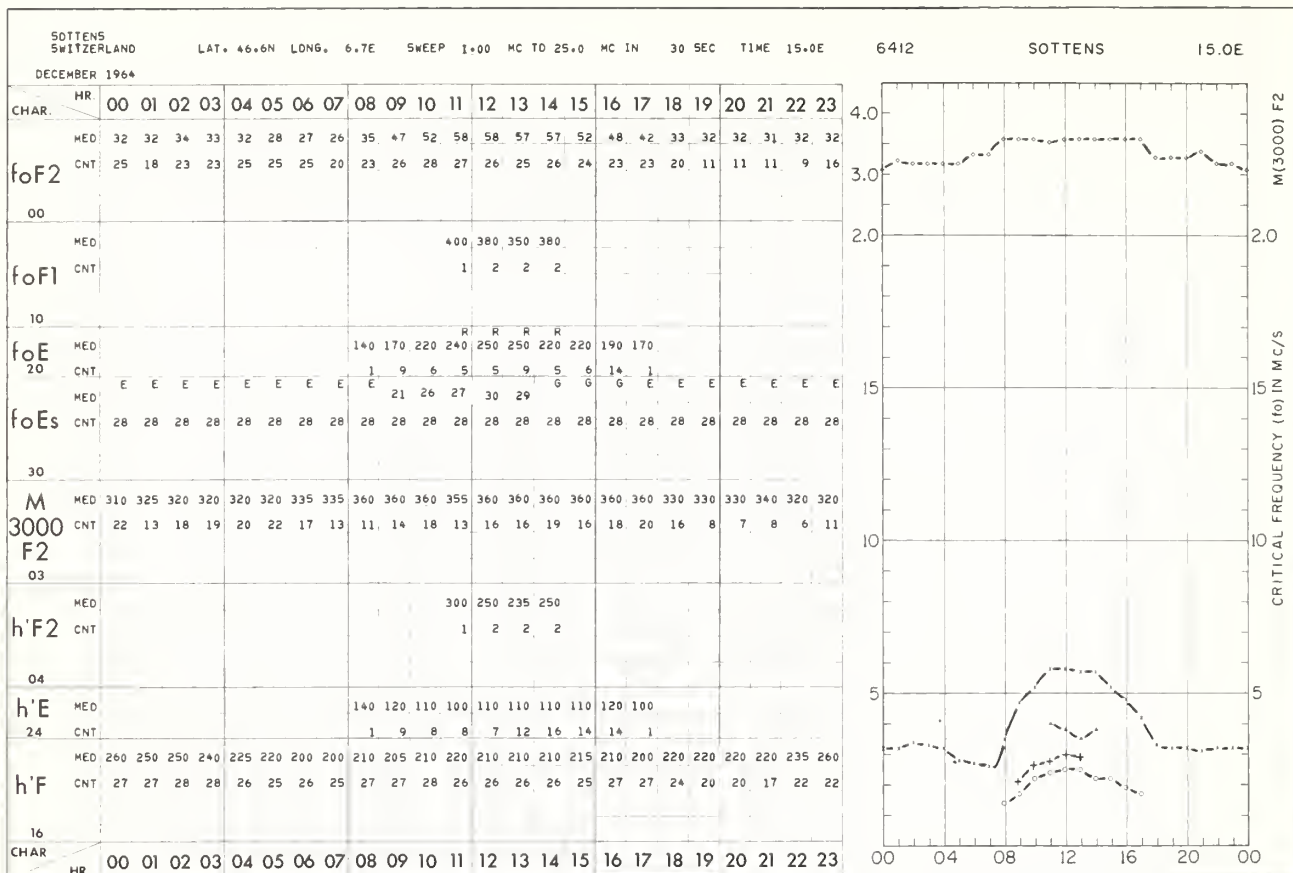


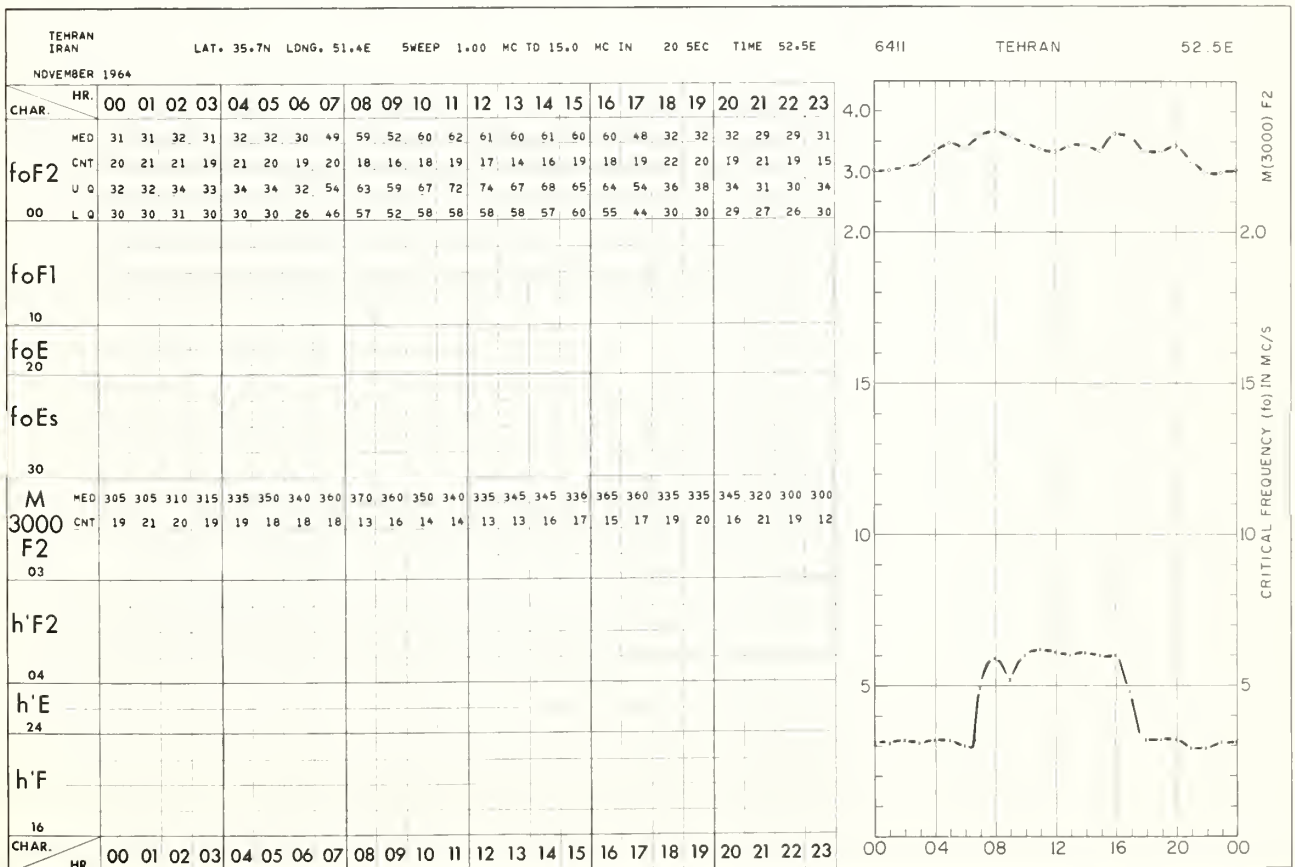
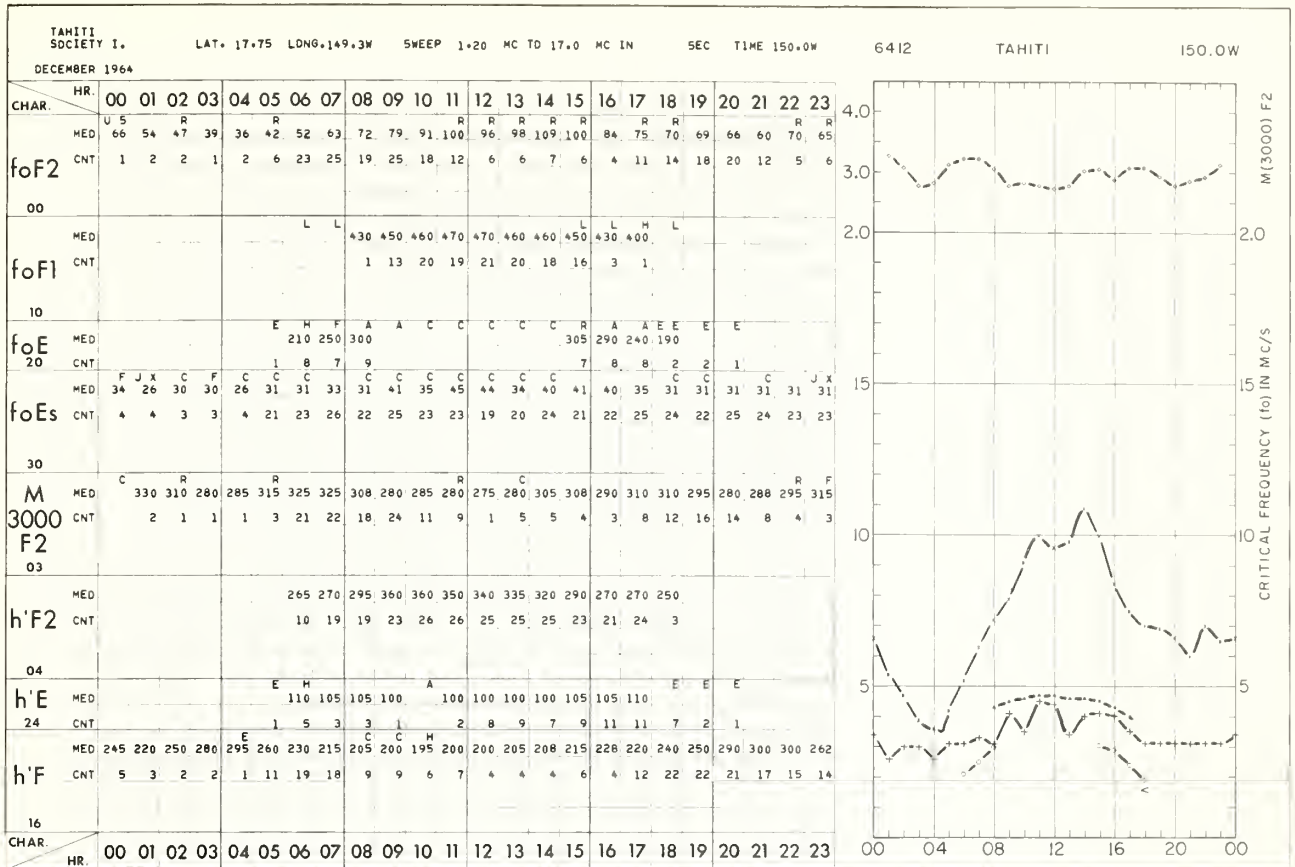


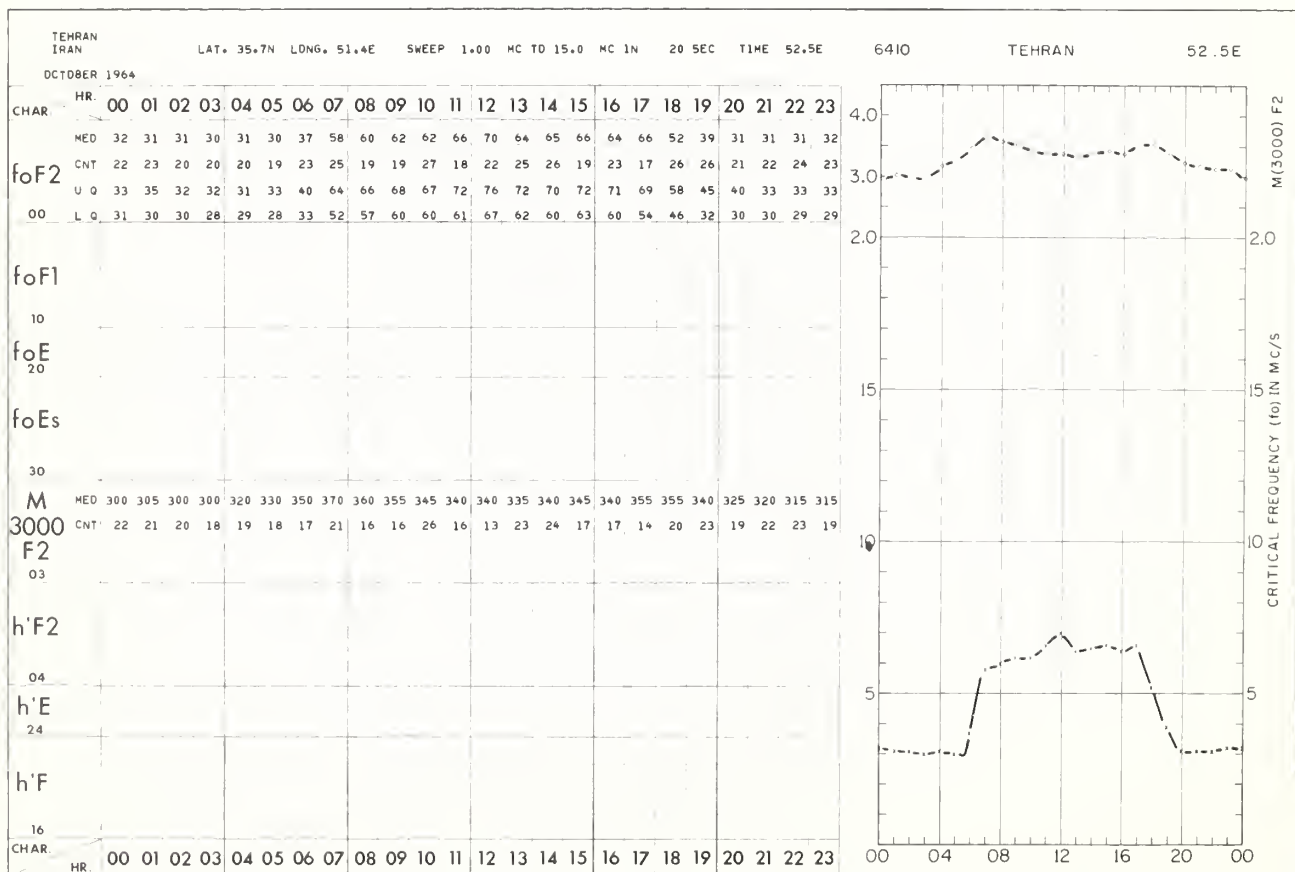
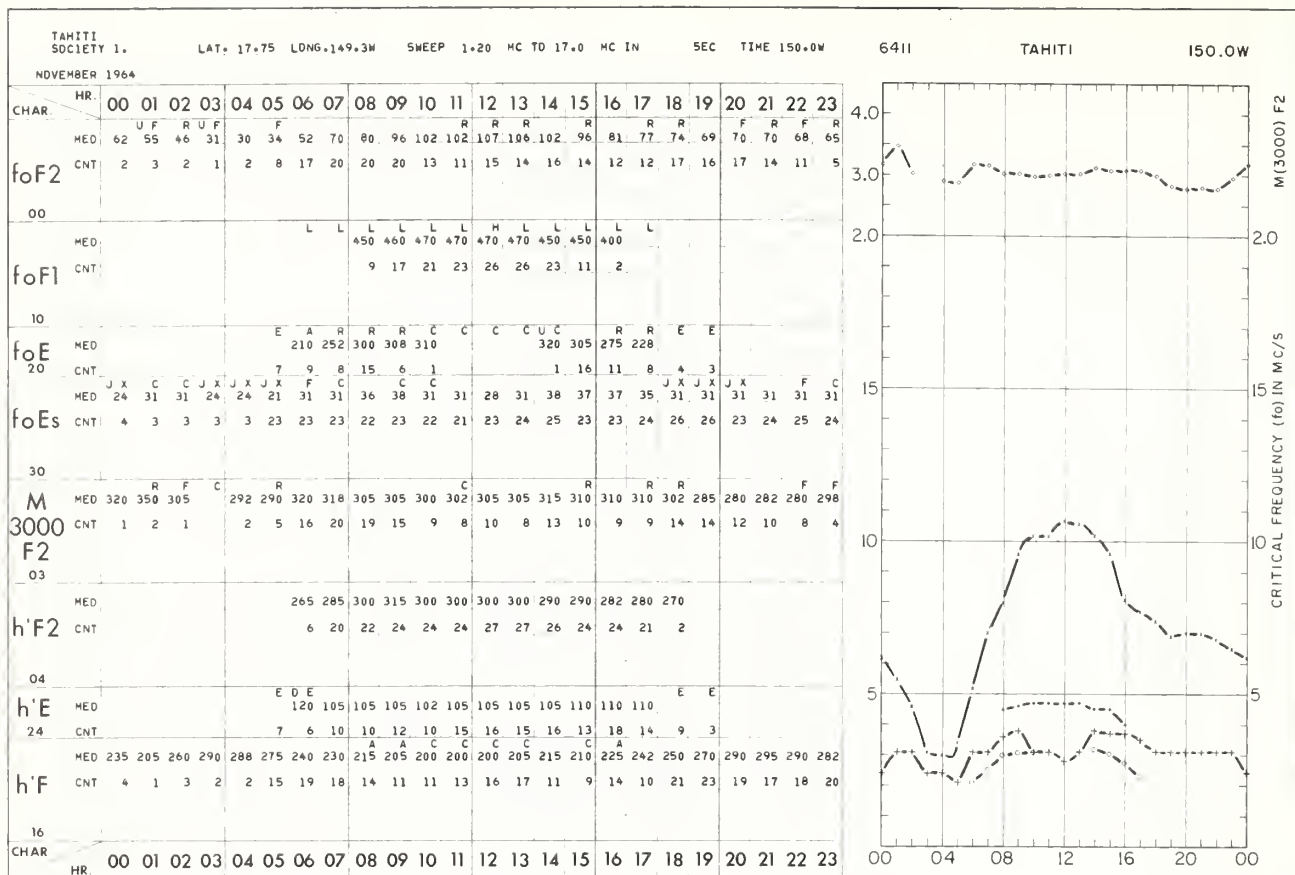




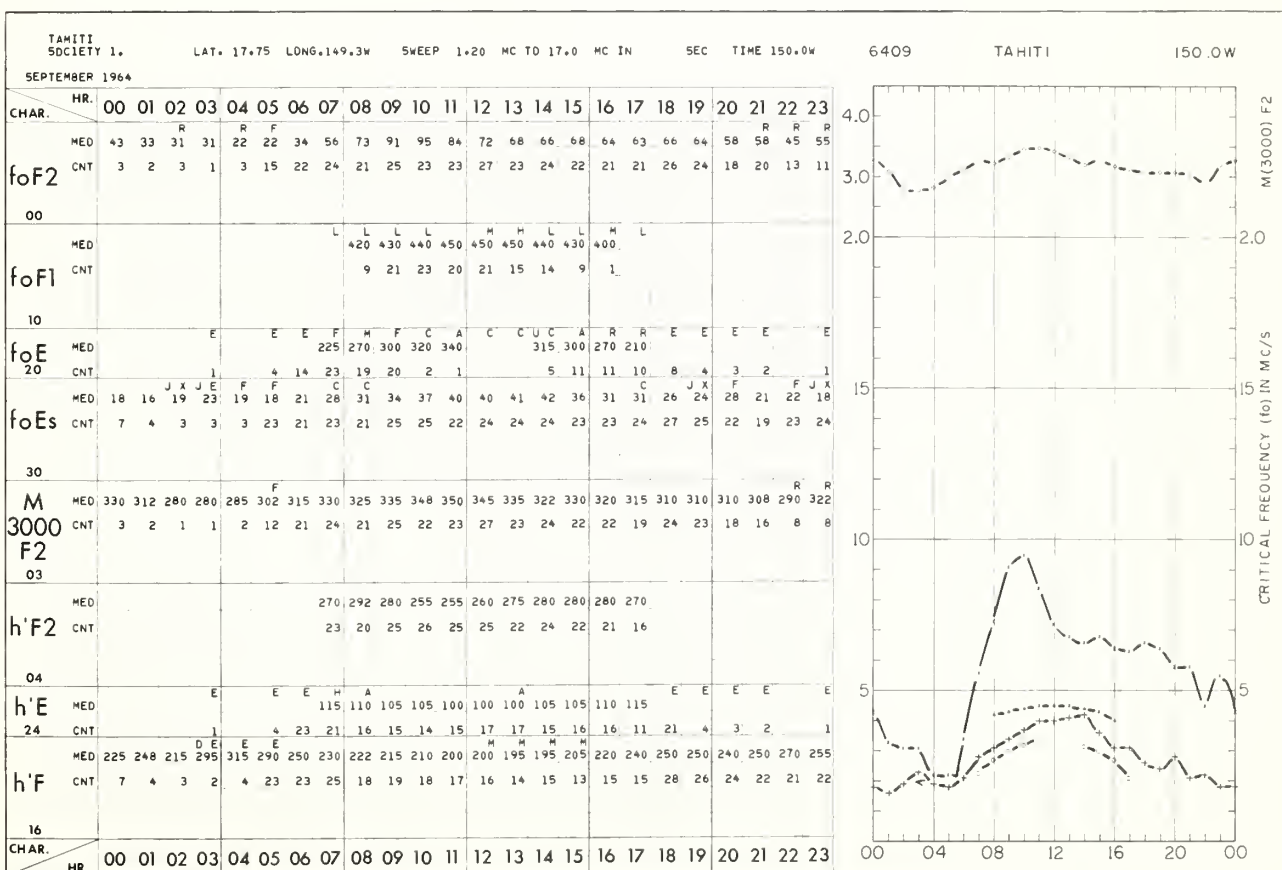
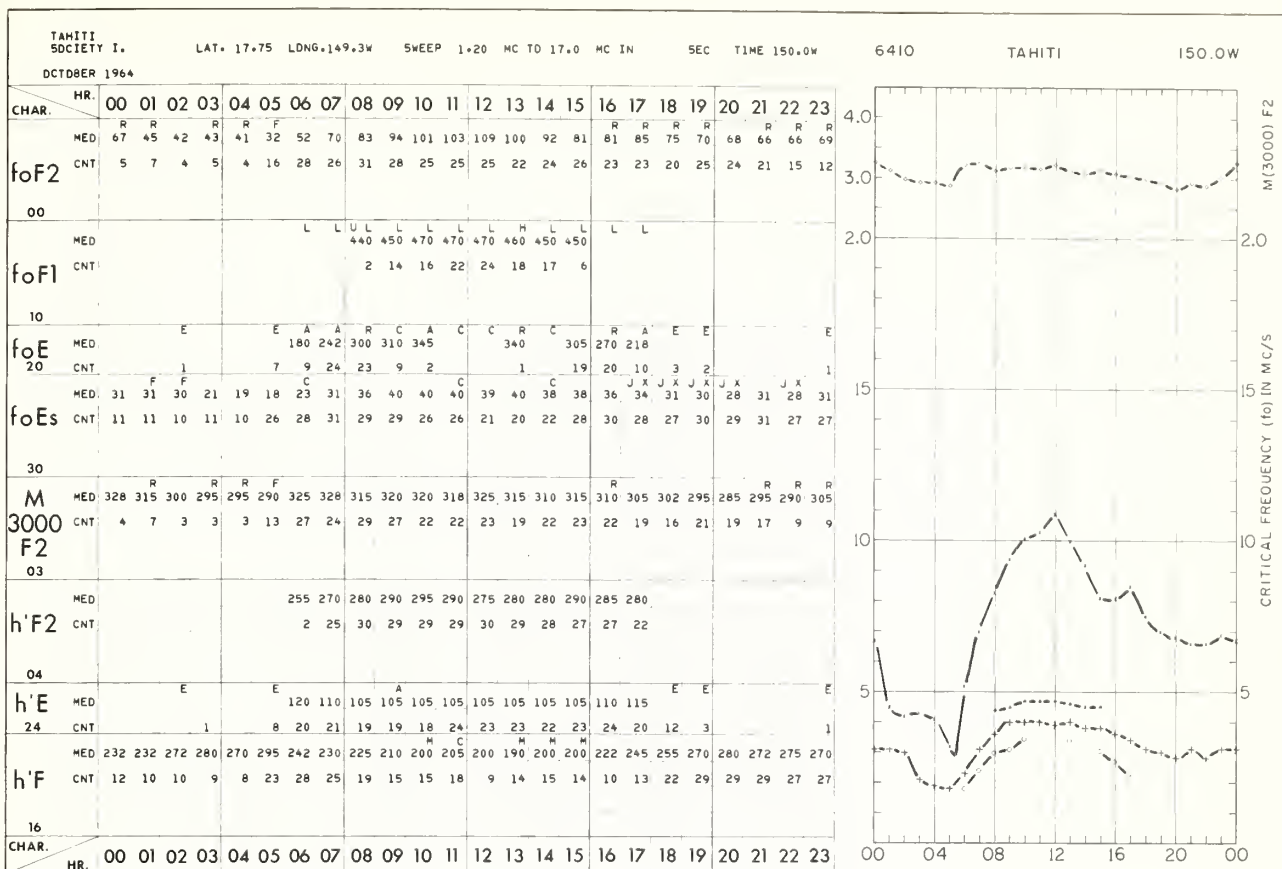


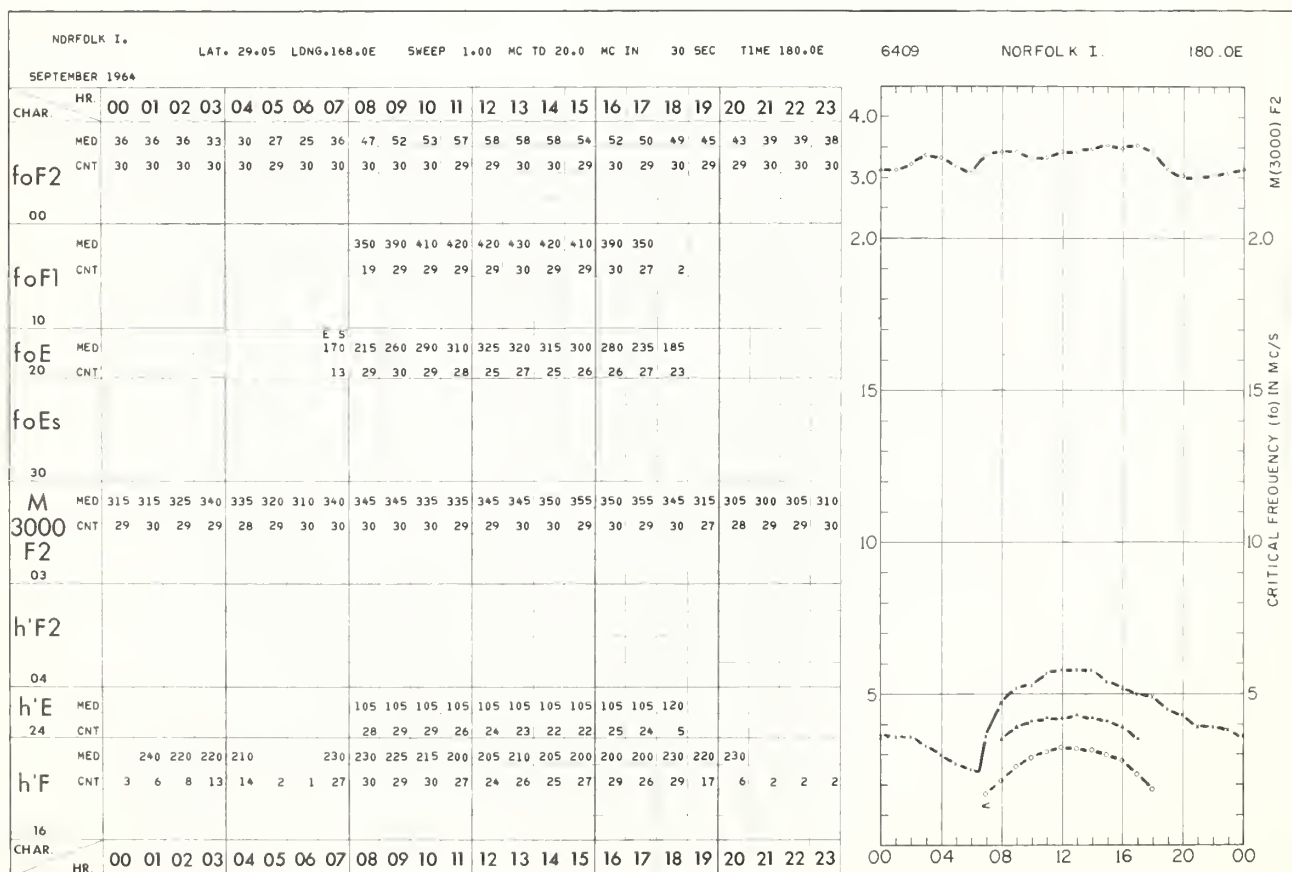
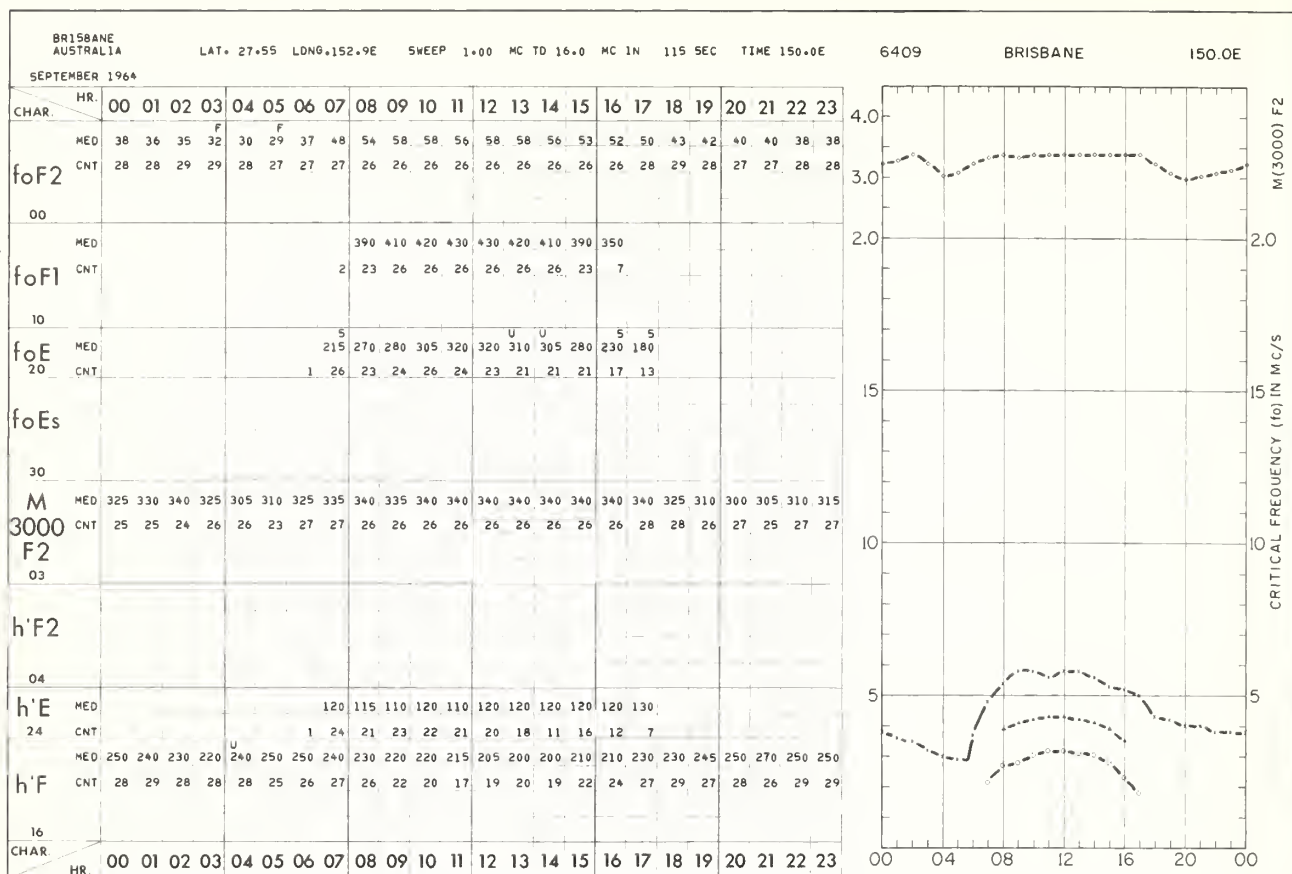


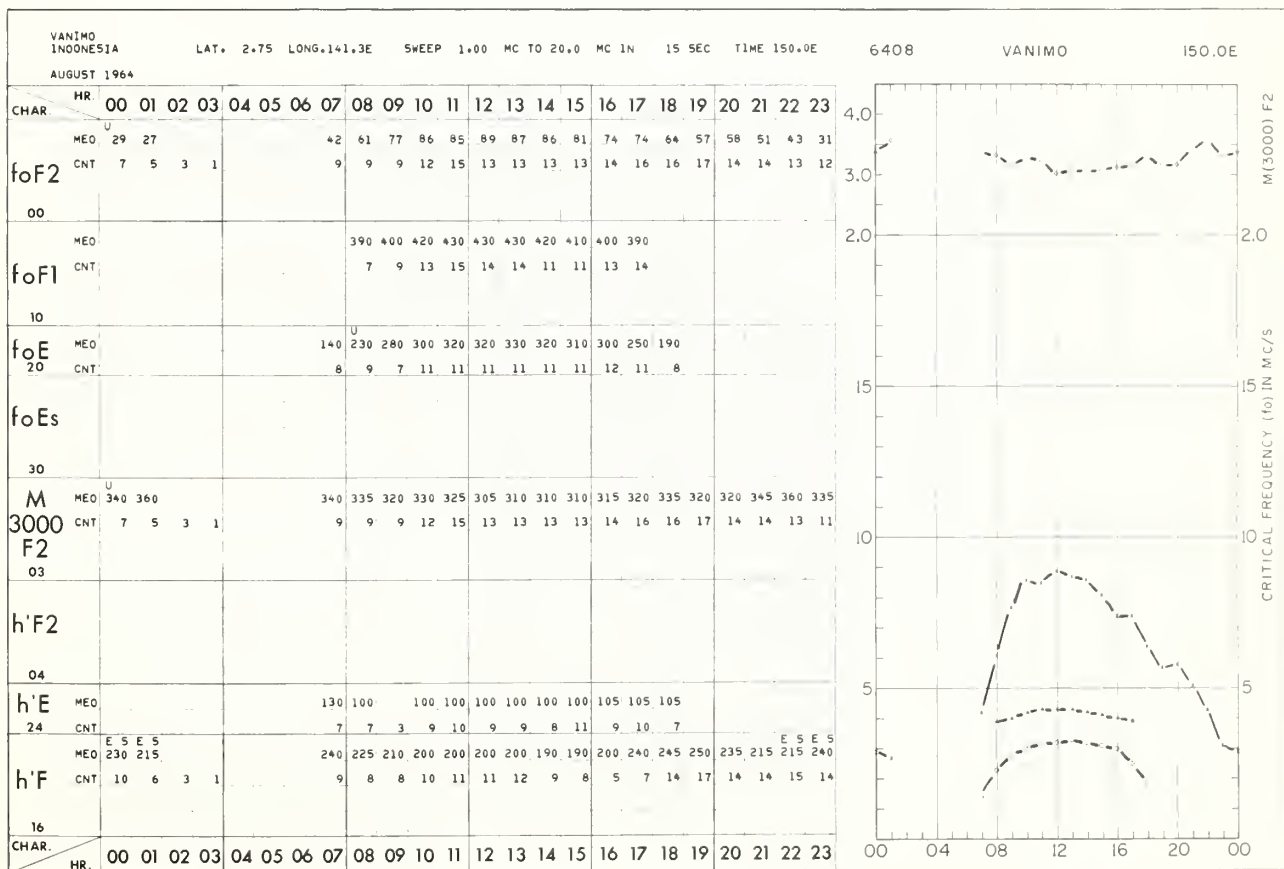
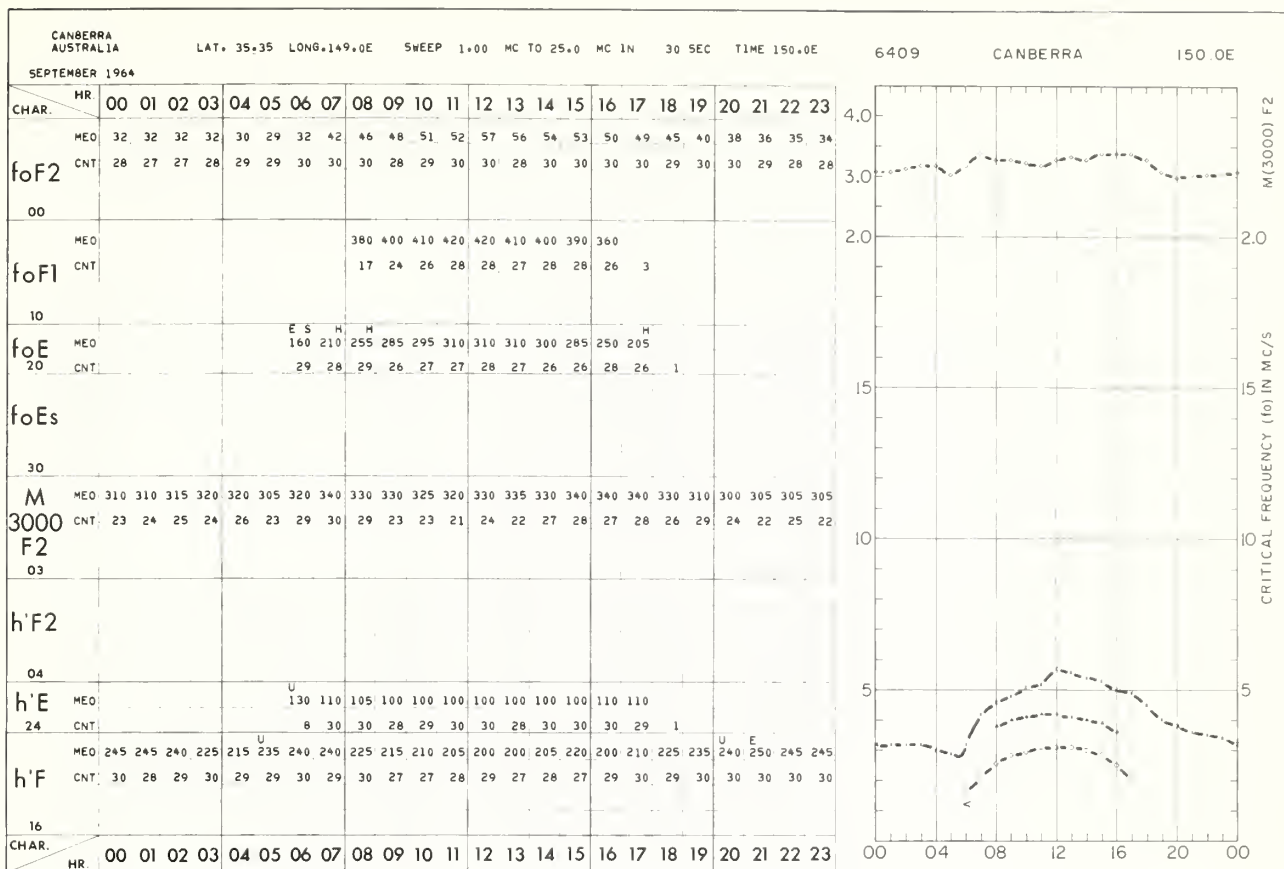


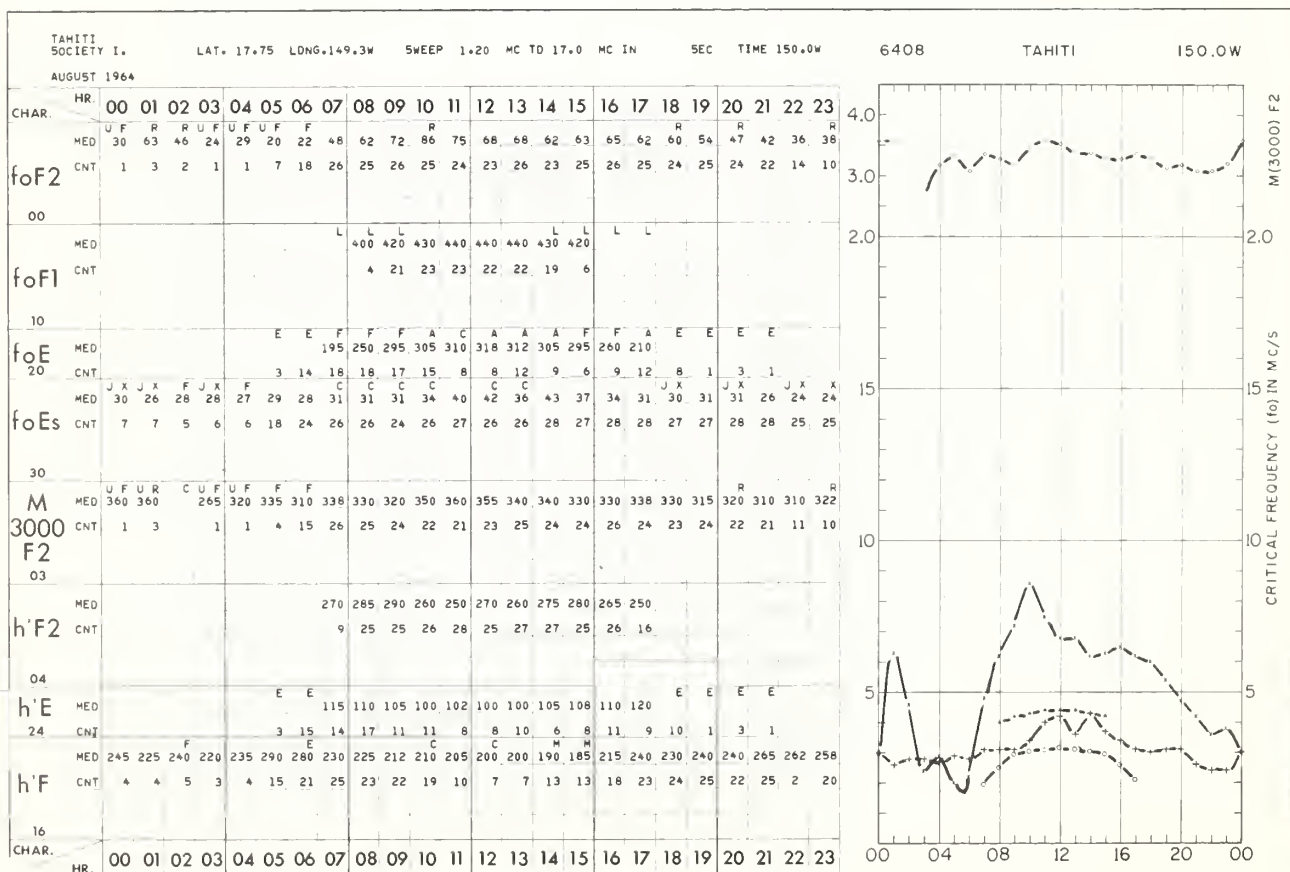
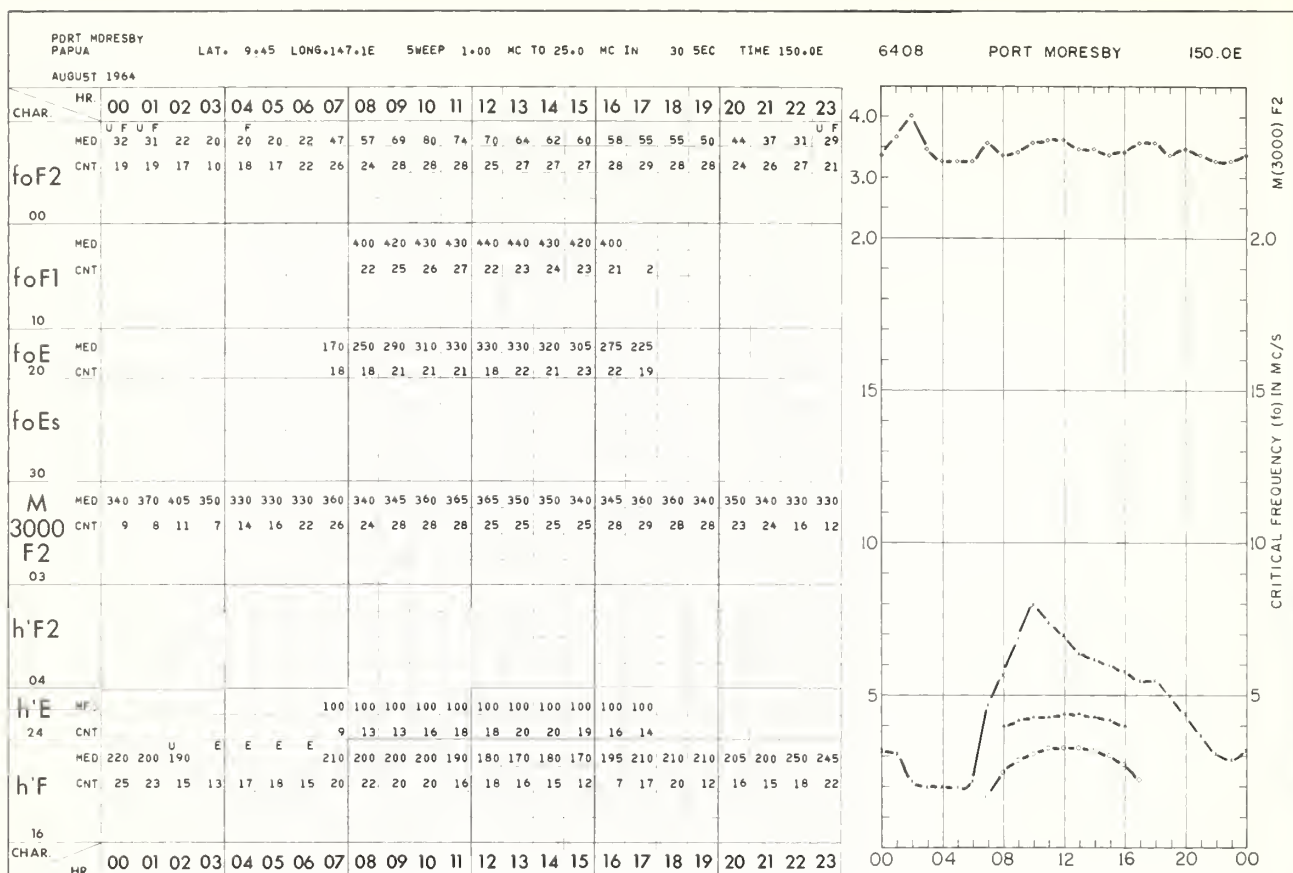




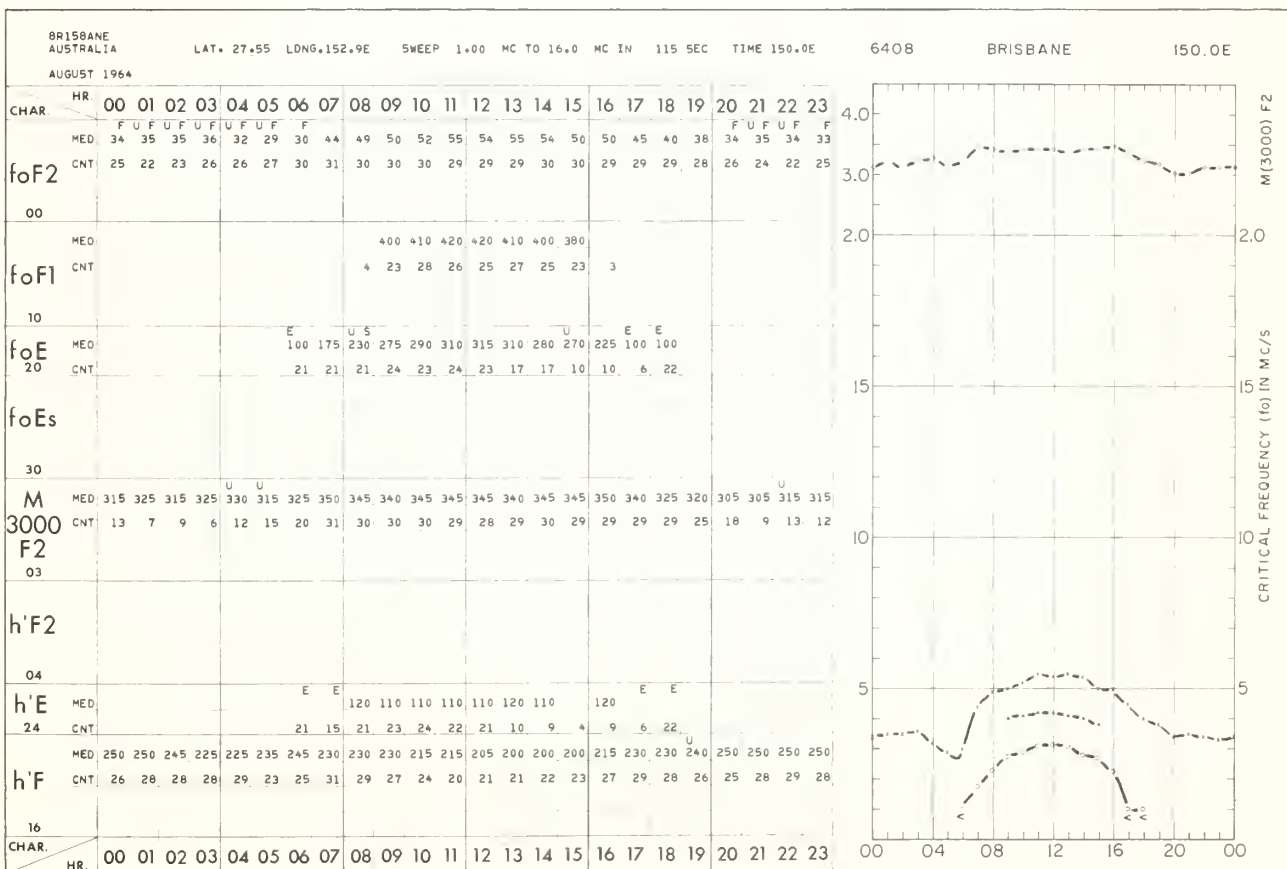
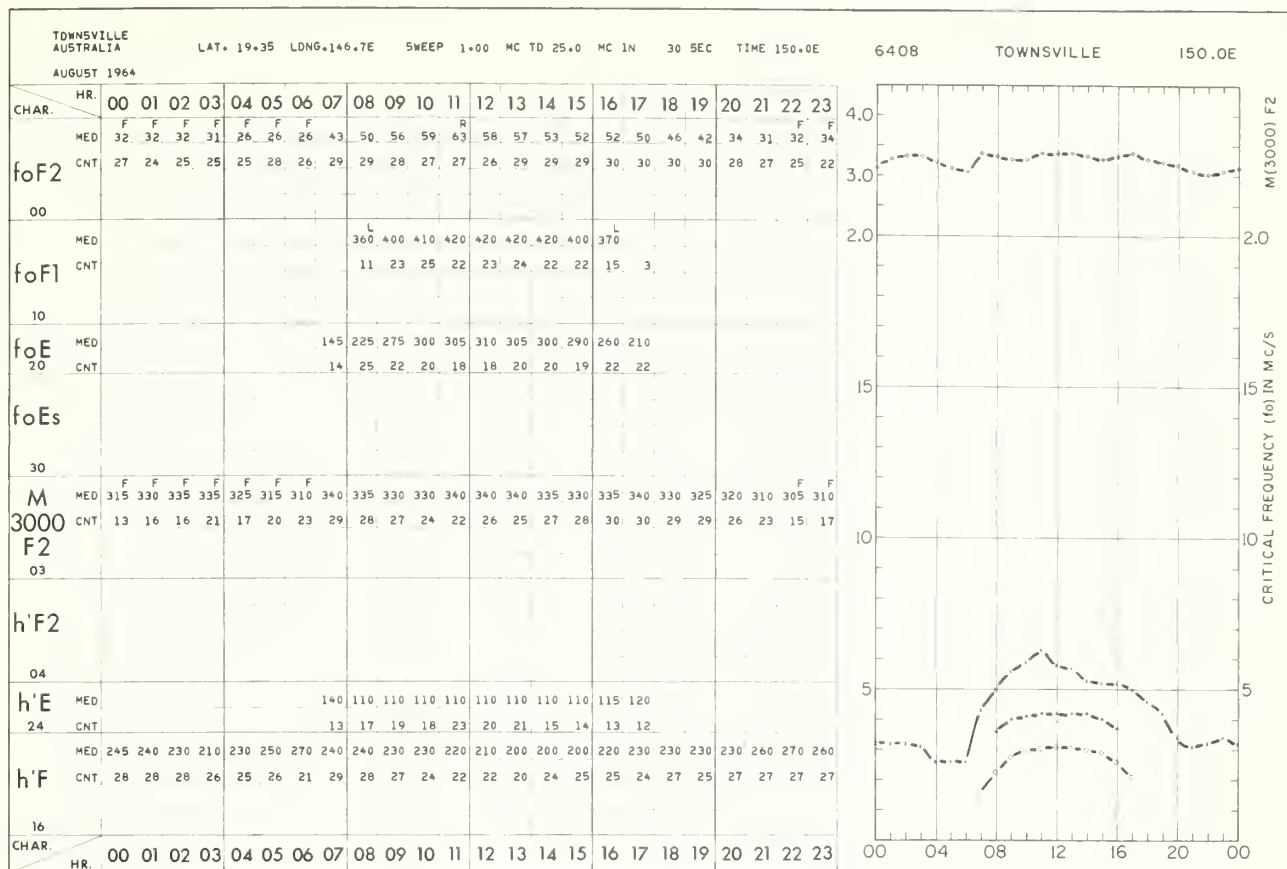


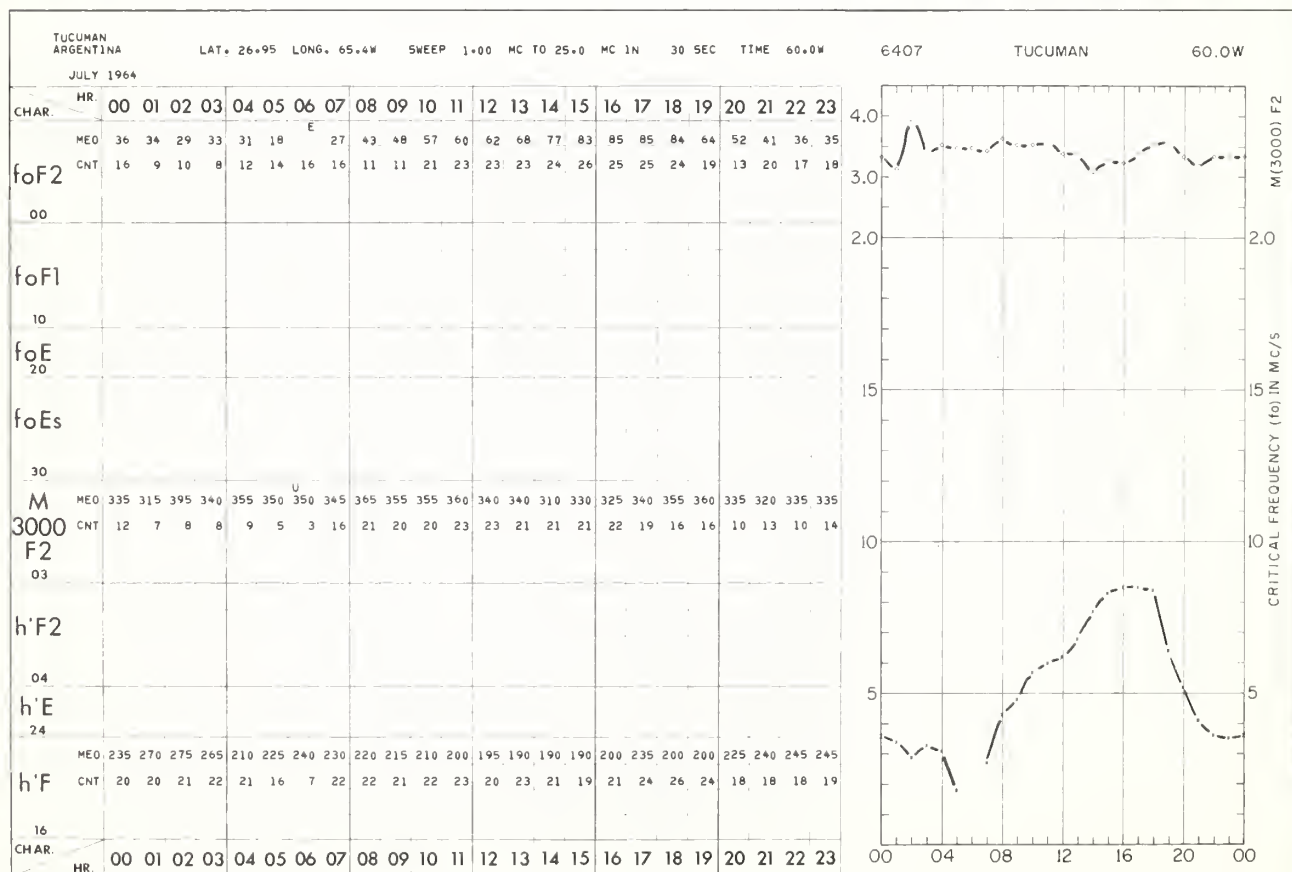
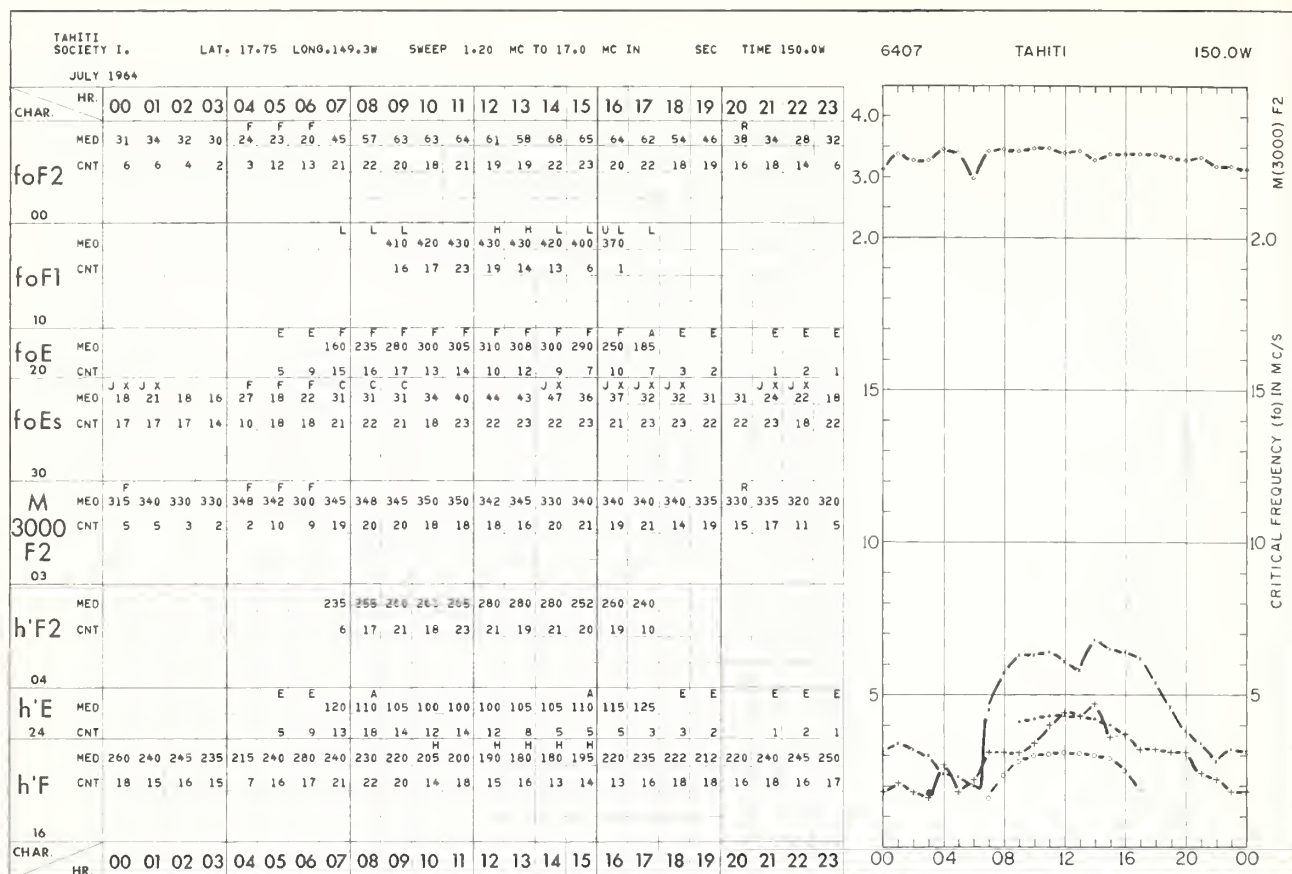


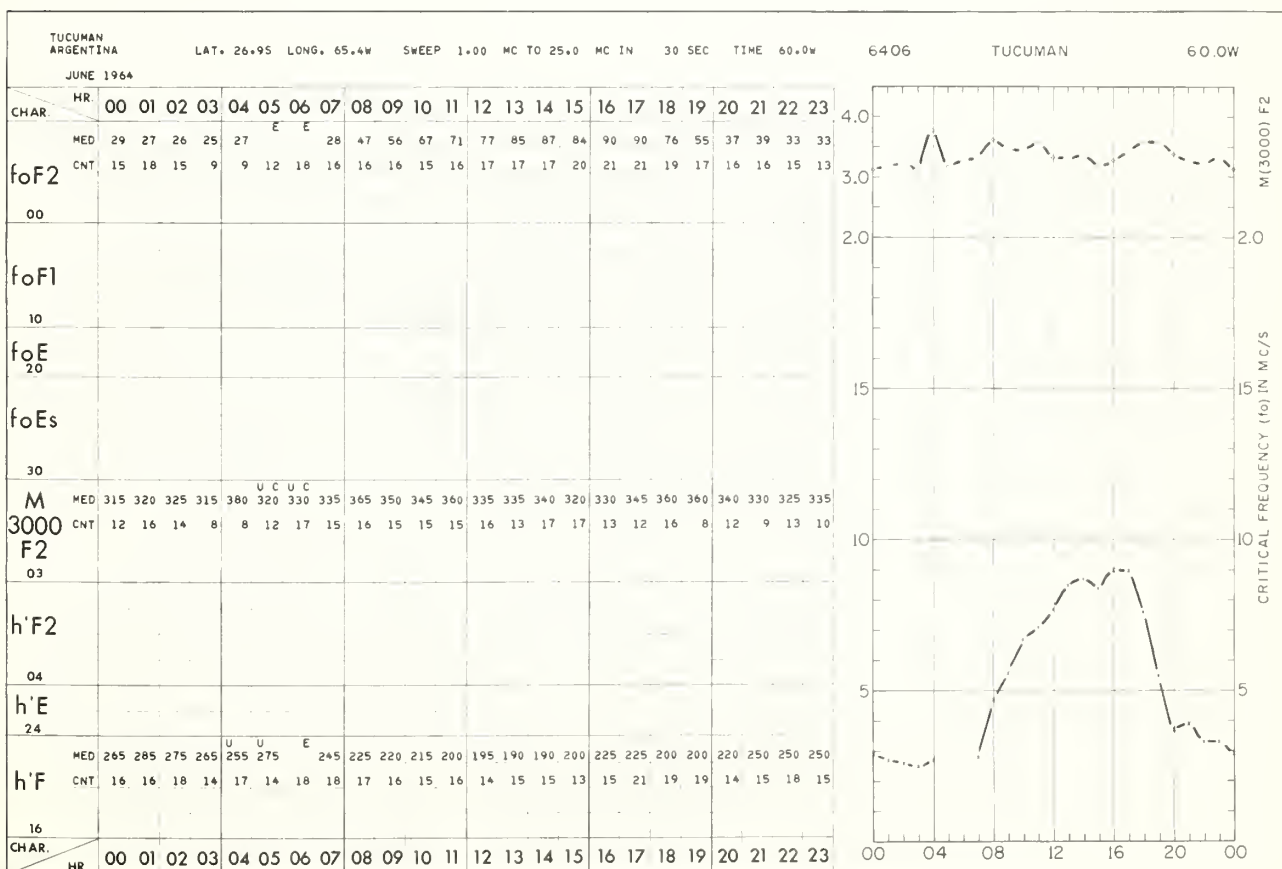
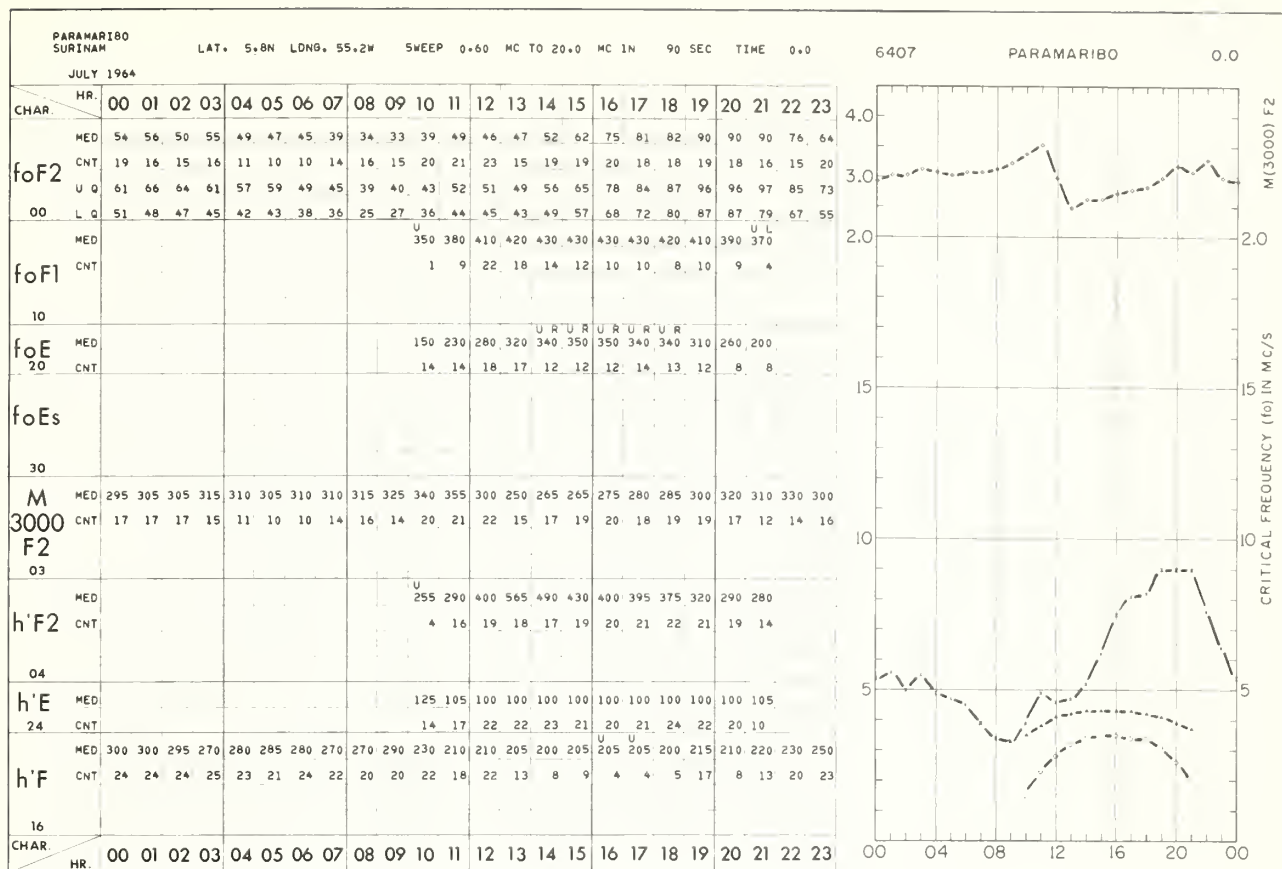


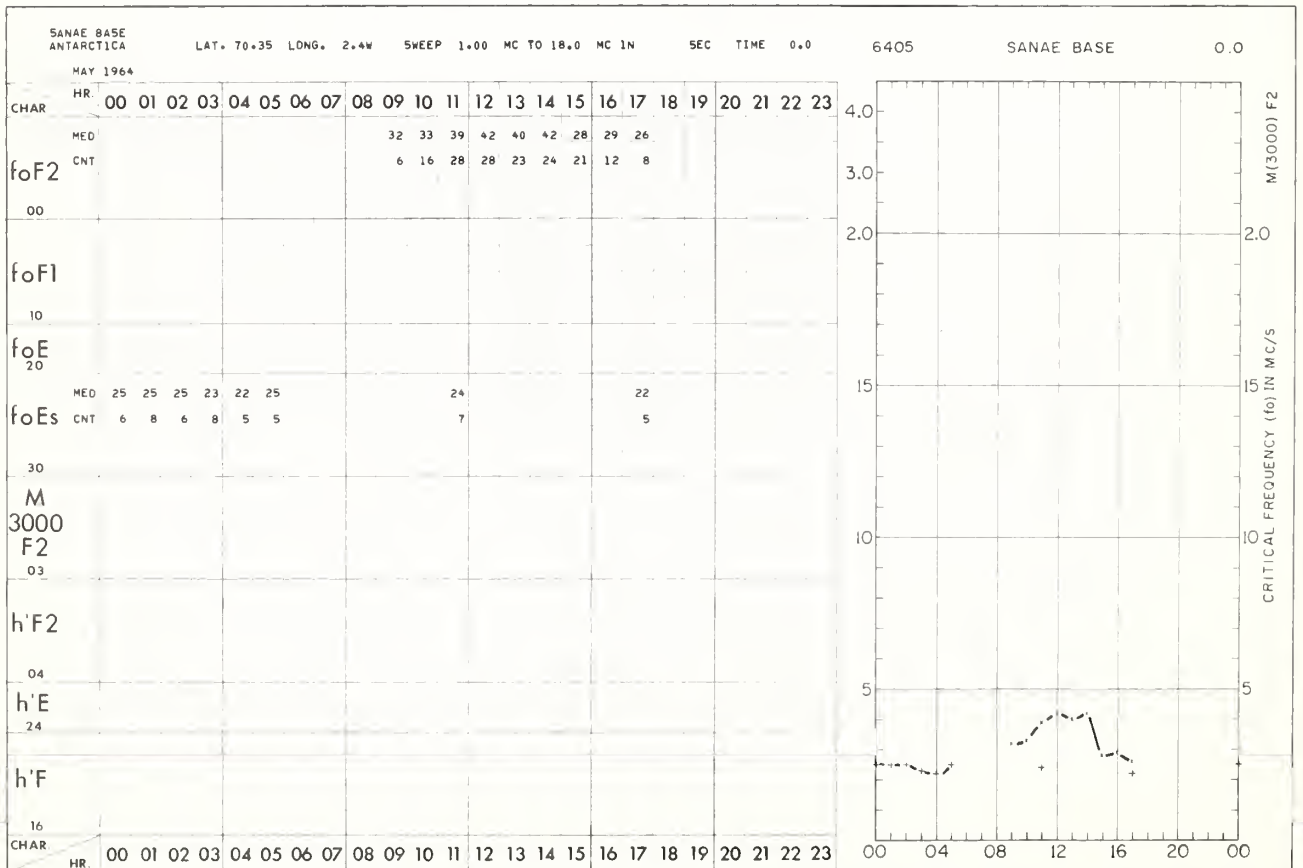
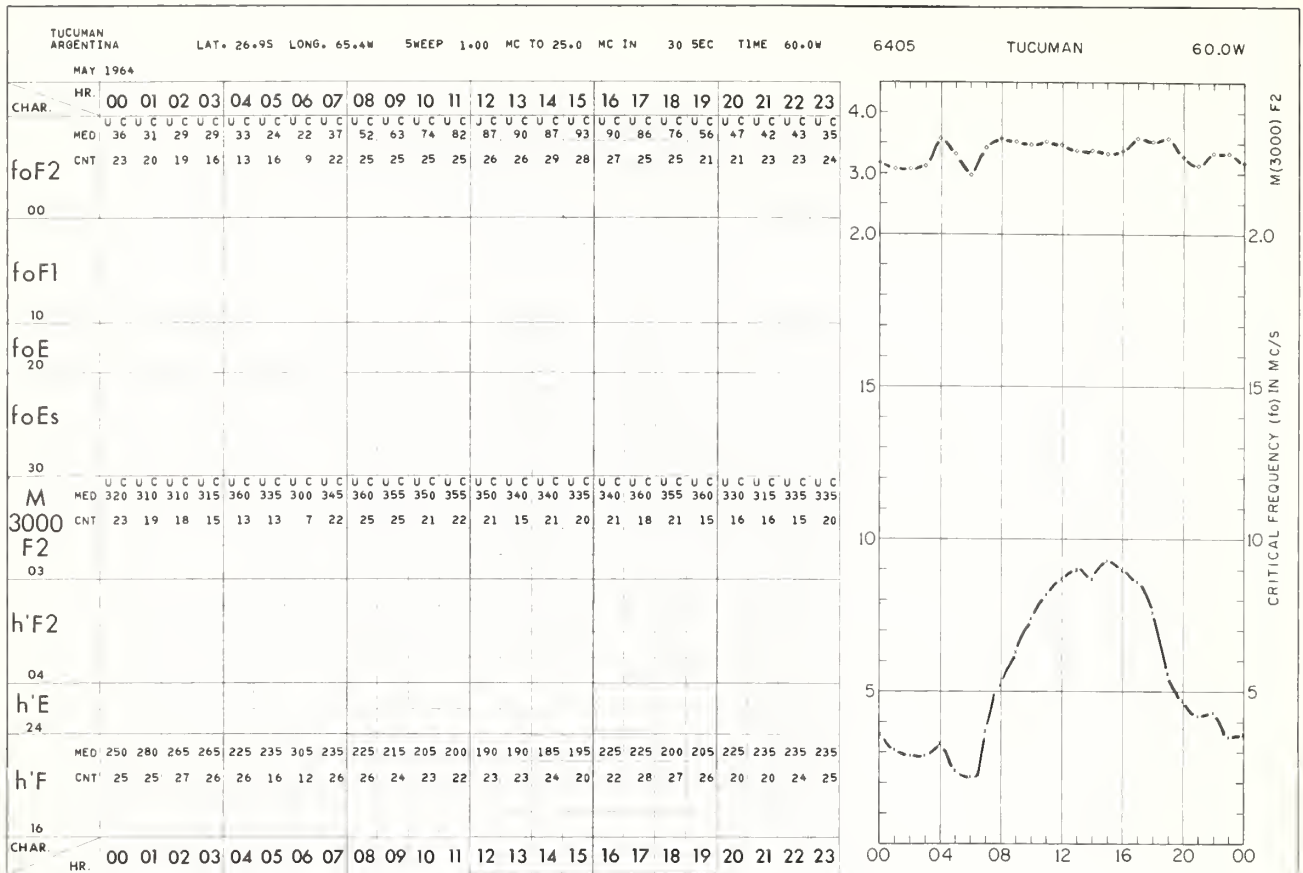




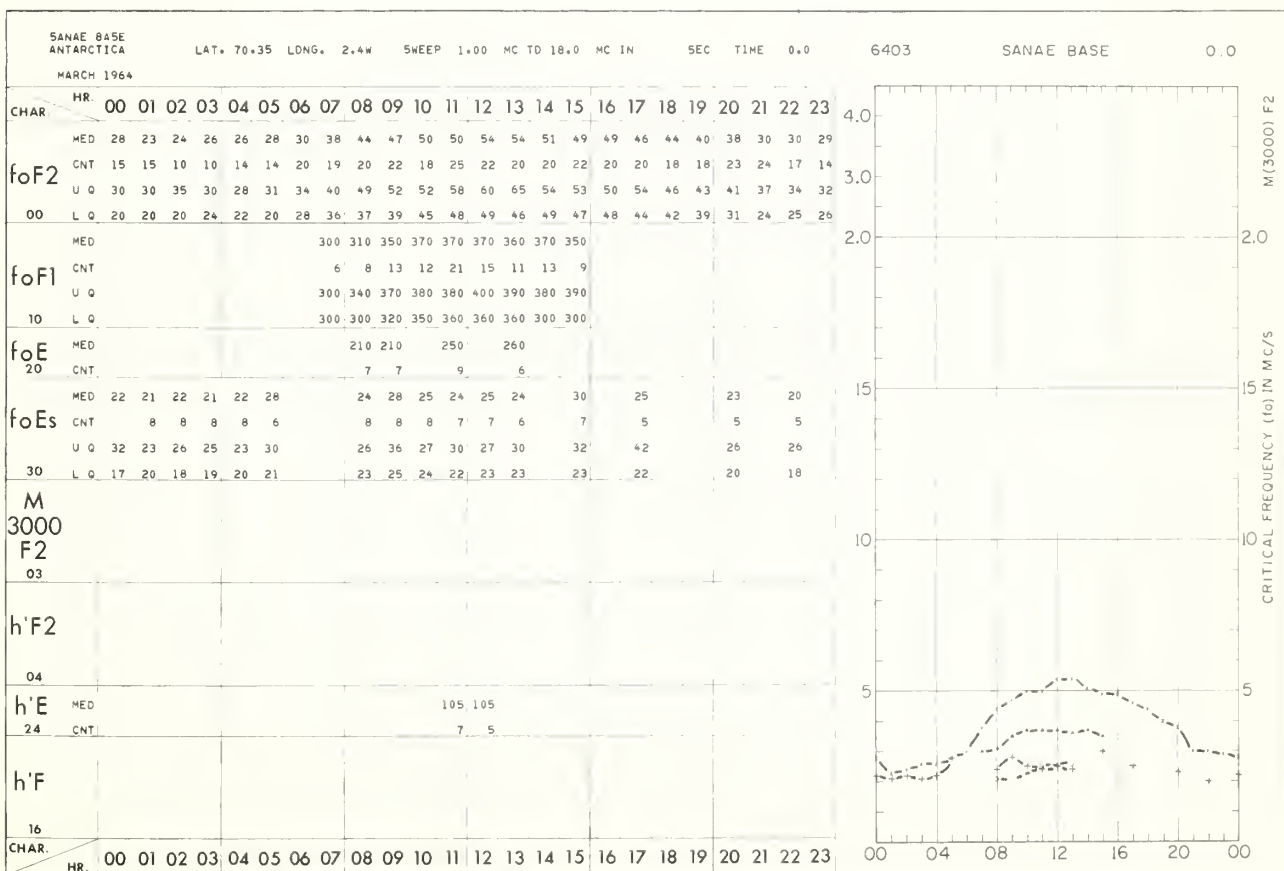
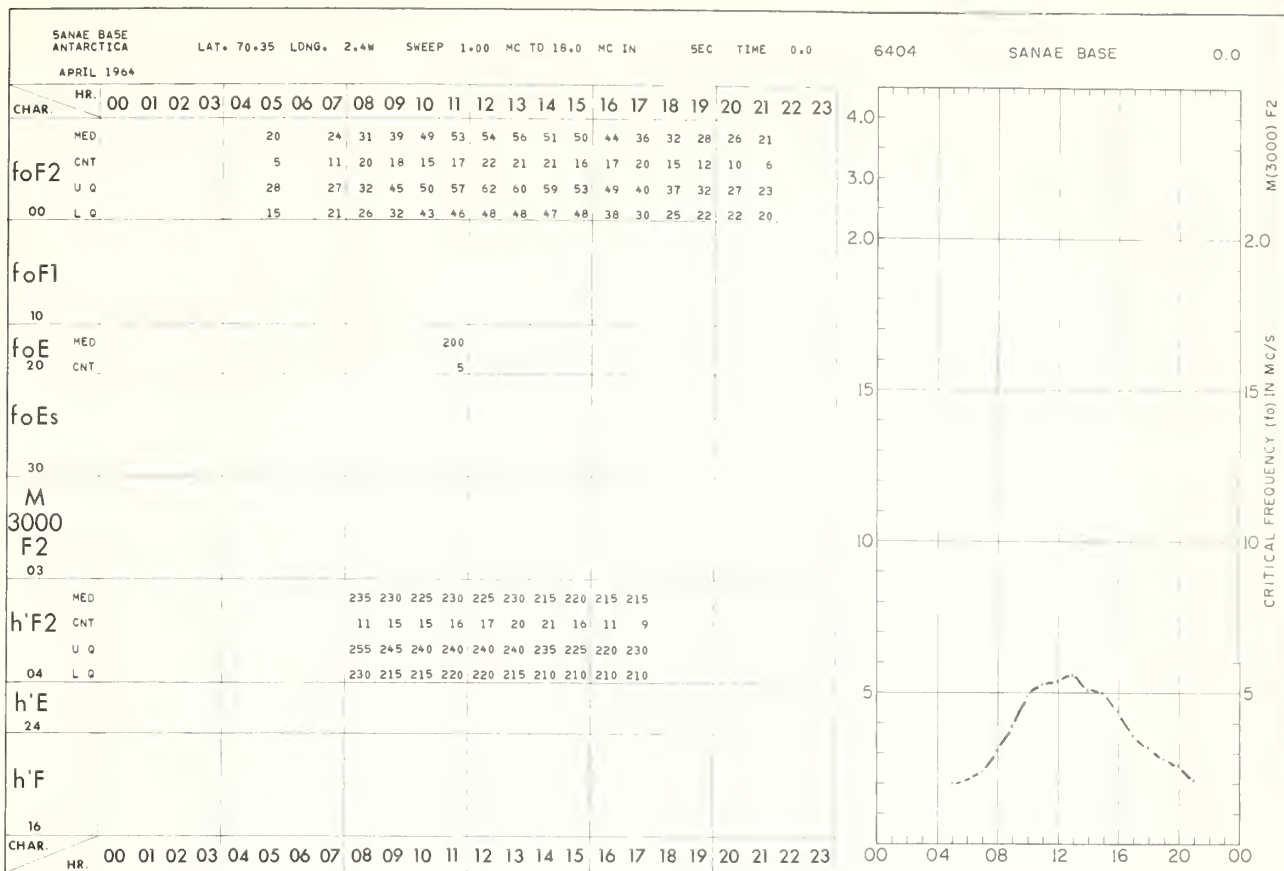


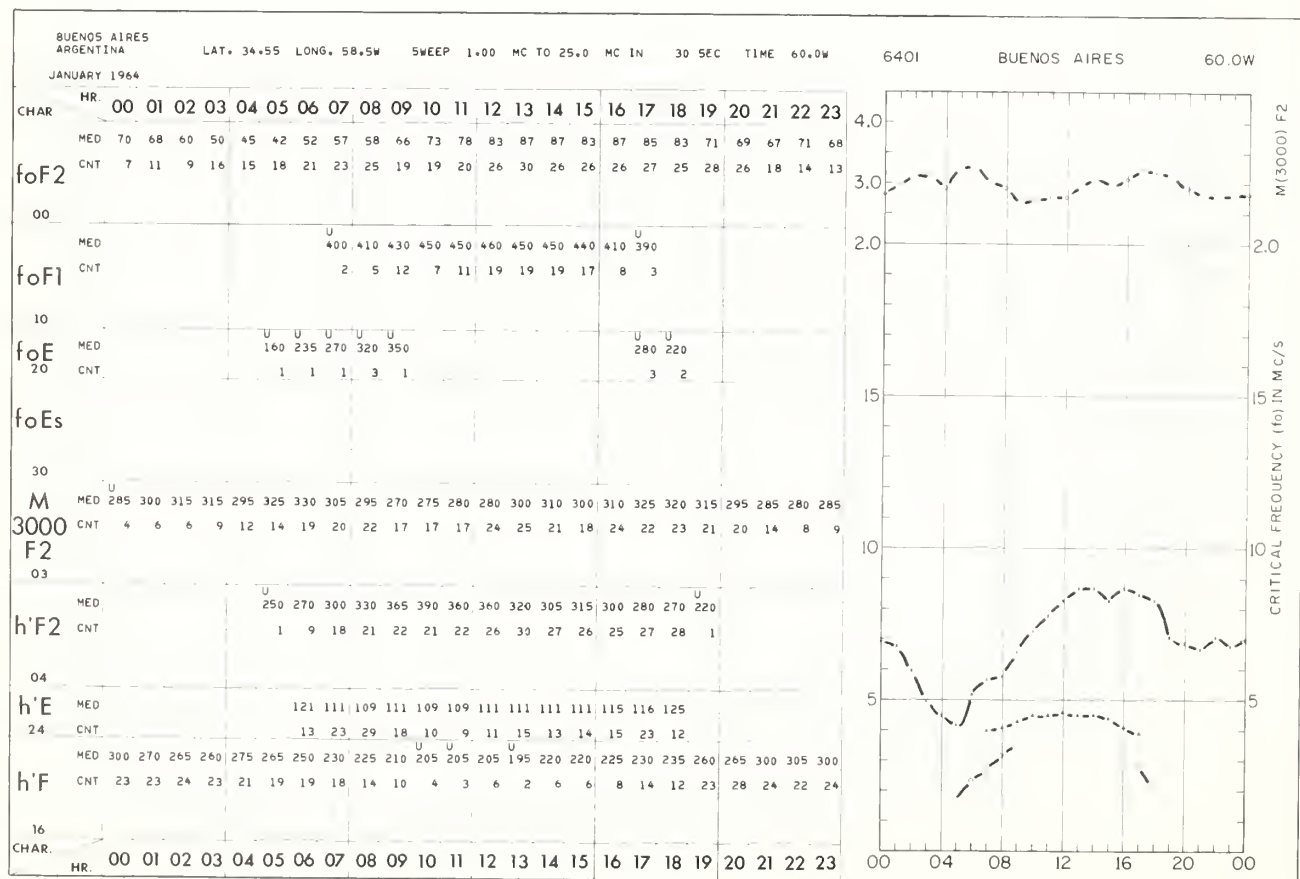
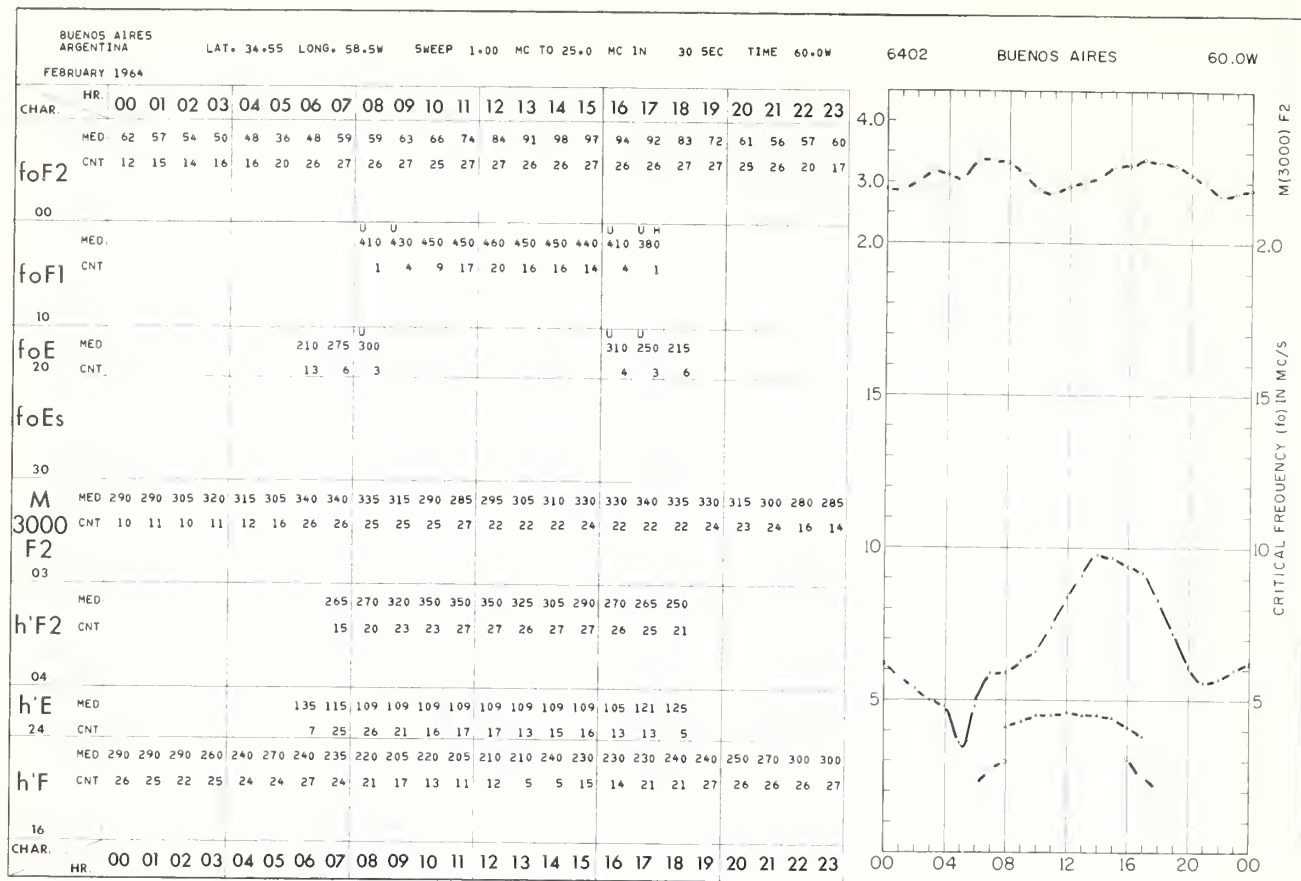












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